

Boston University School of Public Health

Student Practicum Abstracts

Spring 2016



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BIostatISTICS

Name: Chelsea Brown
Practicum Site: Blue Hills Community Health Alliance
Location: Quincy, MA
Title: CHNA20 Process/Outcomes Evaluation for the Multi-Year Grant (MYG)

Introduction: The Blue Hills Community Health Alliance (CHNA20) works to improve the health of local residents through increased coordination and delivery of existing services. They focus on four major public health problems- substance abuse, mental health, chronic disease and wellness, and access to care- across the thirteen different communities they serve. CHNA20 gives out different grants to programs within these communities, a major grant being the Multi-Year Grant in which three programs were chosen to be sponsored for three years at \$40,000 each per year.

Methods: During this practicum I researched other granting organizations and their evaluation of the processes and outcomes of their granting methods. 2015 was the first year that CHNA20 implemented the MYG, and they wanted to know how effectively the grant money was being used by the programs. I researched different logic models for CHNA20 to fill out so that the consultants and steering committee were all in agreement of what their short- and long-term goals were for the MYG program. I also helped to create a feedback survey for the collaborators (such as police departments and hospitals) who are involved with the three programs receiving the MYG.

Results/Outcomes: Our collaboration survey will be used throughout the three programs to gain insight on future plans for the MYG and any changes needed. The Year One reports are due at the end of April for the programs, where CHNA20 will be able to see if the programs are on

Name: Kristina Cooper
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Research Trainee

Introduction: The Women's Health Unit at Boston Medical Center is a designated National Center of Excellence in Women's Health. My practicum involved conducting a survey of primary care providers at two sites focused on breast density legislation. In January of 2015, Massachusetts became the 18th state to pass legislation requiring providers to send written notification to a patient who has dense breast tissue on their mammogram. The goal of this study is to assess providers' attitudes, knowledge and impact on clinical practice of the new legislation at 2 local safety net hospitals.

Methods: My role on this project involved: 1) conducting a literature review on breast density and breast density notification laws, 2) developing an analytic plan, 3) coordinating the enrollment of Tufts Medical Center into the study (At the start of my practicum, the online survey was already completed for Boston Medical Center.), 4) data management and cleaning, and 5) completing data analysis on the survey data collected.

Results/Outcomes: At the conclusion of the practicum, all analysis on the survey data from Boston Medical Center and Tufts Medical Center will be completed.

Name: Emily Ferraro
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Data Management Intern

Introduction: One component towards the efforts to control tuberculosis (TB) is to identify and simplify environmental factors associated with the disease. Historically, TB is a disease for the lower socioeconomic statuses, linking directly with environmental risk factors such as indoor air pollution, tobacco smoke, malnutrition, and overcrowded living conditions. This study aimed to analyze association between risk factors and the spread of TB. When considering factors, it was important to distinguish infection risks such as situations that bring people who have TB in close contact with others from those risks that accelerate disease progression among people who are already infected. The purpose of this practicum focused on different environmental variables related to progression risks from exposure to tuberculosis.

Methods: The practicum experience entailed working with data from culture-confirmed pulmonary TB cases and their house contacts recruited into the Regional Prospective Observational Research for TB (RePORT) cohort in Pondicherry and Tamil Nadu, India. We analyzed factors in relation to usage of unprocessed solid fuels, tobacco use, airflow, and household compositions. Correlations were calculated using a polychoric correlation matrix for a two-dimensional contingency table, providing a macro that was then used to perform an exploratory factor analysis to draw better conclusions based off the dataset.

Results/Outcomes: An analytical report was generated including graphical representation on the preliminary data and conclusions on variable relationships. The results of the analysis will be shared with a larger concerned TB community to inform future action toward the overall preventative mission.

BIostatISTICS

Name: Emily Foster
Practicum Site: Dana Farber
Location: Boston, MA
Title: Quality Improvement Patient Care Supportive Initiatives Intern

Introduction: Dana Farber/ Boston Children's Cancer and Blood Disorders Center's (DF/BC) Global Health Initiative (GHI) is collaborating with Children's Cancer Hospital Egypt 57357 (CCHC 57357) to determine why Central Venous Access Devices (CVADs) are not being employed over Peripheral Intravenous Lines (PIVs) when they are used ubiquitously in the United States. CVADs, when used properly, minimize adverse events such as extravasations and infections and have been shown to improve the quality of life of those receiving chemotherapy. DF/BC's GHI aims to collaborate with CCHC 57357 in an educational and training program to increase the use of CVADs in the administration of chemotherapy for pediatric cancer.

Methods: During the first few weeks of the practicum, a thorough literature review was performed to determine the benefits of CVADs over PIVs and to determine why lower-income countries have not been employing CVADs for chemotherapy. Based on this literature review, a retrospective chart review was designed which identified key risk factors for infection and identified the true rate of adverse effects for both CVADs and PIVs. With this information, a randomized clinical trial will be designed to determine the true benefits of either CVAD or PIV use and to identify true causes of adverse events.

Results/Outcomes: The retrospective chart review is currently being reviewed by CCHC 57357's IRB, and should be approved in the near future. As soon as approval is confirmed, periodic review of the retrospective chart review will guide our design of the randomized clinical trial.

Name: Fjoralba Kristo
Practicum Site: Newton-Wellesley Hospital
Location: Newton, MA
Title: Biostatistician

Introduction: Continuous monitoring of patients in acute care hospital services is important for patient health. However excessive alarm burden can have a negative impact on patient wellbeing and safety. Increased level of unnecessary noise creates a difficult environment for medical staff and leads to alarm fatigue. The Hospital Medicine Group at Newton-Wellesley Hospital is conducting a comprehensive interdisciplinary approach to reduce the unnecessary telemetry alarms in all medical-surgical units. The objective of this practicum was to evaluate the effect of intervention through statistical analysis of the parameters of alarm burden post-intervention compared to baseline.

Methods: The project involved literature review, statistical analysis of different types of alarm rates, telemetry order analysis, and telemetry duration change from baseline to a few months post-intervention.

Results/Outcomes: The statistical analysis of the change of alarm parameters from baseline is complete. Based on the performed statistical analysis the intervention led to significant reduction in alarm burden in all medical-surgical units at Newton-Wellesley Hospital.

Name: Jasmine Mack
Practicum Site: Firefly Yoga International
Location: Boston, MA
Title: Monitoring and Evaluation, Data Management Intern

Introduction: Exposure to potentially traumatic events is increasingly common. By the onset of adulthood, at least 25% of the population will have experienced at least one traumatic event, while a significant number will experience multiple events across adulthood. Firefly Yoga International (Firefly) implements trauma-informed yoga teacher trainings and 12-week yoga programs (the Firefly Program) for diverse populations of trauma survivors. The Firefly Program was designed based on empirical evidence showing how trauma-informed yoga can lead to a reduction in mental and physical symptoms related to trauma.

Methods: The practicum involved supporting data management of quantitative and qualitative data, additionally advising on the development and implementation of a monitoring and evaluation (M&E) plan for Firefly, with the aim to assess program effectiveness and quality improvement for future expansion of the program. I built secured databases using Microsoft Access and Excel, and designed attendance spreadsheets and online pre- and post-program surveys, using data dictionaries, for evaluation. I created a standard operating procedure for data collection, management, and storage, addressing security and confidentiality across multiple program sites

Results/Outcomes: Using SAS, I performed statistical analyses to assess significant differences before and after the program for clients on outcome measures of self-efficacy, mindfulness, self-regulation, and symptoms of anxiety, depression, and PTSD. Lastly, I developed an evaluation report and M&E plan, emphasizing program sustainability. Overall, the deliverables present an opportunity to strengthen the Firefly Program, focus on feedback from populations served, and move forward to develop an international network of trauma-informed yoga teachers and programs.

BIostatISTICS

Name: Boting Ning
Practicum Site: Epidemico
Location: Boston, MA
Title: Analyst

Introduction: FDA-China Supply Chain Map from Epidemico aims to automatically grab information on drug and food safety on products imported from China to the US from several social media sources and analyzed the alerts using natural language processing techniques in order to visualize the data. The social media used were mostly Chinese, including Weibo and Baidu New, etc. As an analyst working on Supply Chain Map, I mainly facilitated the Project manager on developing categorization rules and dictionary for alert information and making data visualization.

Methods: 1.) Develop new food, contaminant, drug and product issue categories based on FDA regulation. 2.) Populate synonym dictionary based on social network alerts. 3.) Curated alert information on food and drug safety and location for website visualization and training machine learning system.

Results/Outcomes: The new developed categorization plan and dictionary were used in Epidemico's FDA-China natural language processing system and guided the visualization of the alert information from different social media sources. Also, with a year amount of curated alert data that trains the machine learning system, the Supply Chain Map is now able to differentiate true safety issue alert from others, and pick out essential information with high sensitivity.

Name: Rachel Parker
Practicum Site: Massachusetts Department of Public Health
Location: Boston, MA
Title: Maternal and Child Health Evaluation Associate

Introduction: Welcome Family is a pilot program funded by the Massachusetts Department of Public Health that delivers a universal, one-time nurse visit to all mothers with newborns living or giving birth in Boston, Fall River, Lawrence and Lowell. The program's goal is to improve population wide health and well-being. Home visits provide an assessment of individual family needs, brief interventions based on screening results, and referrals to services. Evaluation of the Welcome Family program is currently focused on assessing: 1) program universality; 2) identification of unmet family needs; and 3) connection to social services and community resources. A 2-3 month follow-up phone survey is conducted after the nurse visit. Survey results will be used to evaluate program effectiveness on aspects such as health and well-being of the newborn and mother, community contentedness, program enrollment, overall satisfactions with the program

Methods: Practicum activities included the following: 1) conducting the 2-3 month follow up phone surveys with Welcome Family participants; 2) developing analysis plan and table shells for survey analysis; 3) writing SAS code that reflect analysis plan; 4) developing a report with survey results

Results/Outcomes: Practicum activities supported the program's current process and outcome evaluation. An individual evaluation report was generated for each site that currently participates in the Welcome Family program. The SAS code and table shells will be used for the final Welcome Family evaluation report that will be completed in October 2016. Data collected through 2-3 month follow-up surveys will be used to guide future program enhancements.

Name: Ziyue Wang
Practicum Site: Beginnings School
Location: Weston, MA
Title: Data Intern

Introduction: Beginnings Child Development Center promotes the early development of emotional skills among young children. The unique program in Beginnings facilitates healthy emotional development. The goal of this research is to explore how the curriculum of Beginnings impacts the development of children's emotional intelligence.

Methods: To evaluate improvement of emotional skills, children are tested before and after the intervention program. Affect knowledge Test (AKT) is used to assess children's level of emotional skills development. Use puppets with felt detachable faces that depict happy, sad, angry and afraid expressions to assess preschooler's emotion knowledge. Recognition is measured expressively and receptively. For nine situation-knowledge portion, in three vignettes, the puppets depict the same emotion most people would feel (stereotypical). In another six vignettes, the puppets depict a different emotion from the child would feel (non-stereotypical).

Results/Outcomes: The AKT results show significant change between pre and post intervention. The unique intervention program of Beginnings will be associated with development of children's emotion knowledge.

BIostatISTICS

Name: Megan Yee
Practicum Site: Beth Israel Deaconess Medical Center
Location: Boston, MA
Title: Research Student

Introduction: The PERFUSE Study Group is an Academic Research Organization that offers cardiology clinical trial management services for companies conducting international phase I-IV trials. Services offered include protocol development, secure trial portals, data entry, data management, and biostatistical support. My role was to assist the team of biostatisticians, who work on open clinical trials, primary analysis of clinical trials after dataset lock, and post-hoc analysis of closed clinical trial datasets. Further, I was to develop and understanding of the work completed at the site.

Methods: I first completed all mandatory trainings to learn the standard operating procedures of the study group. My next step was to recreate previously validated analysis to become familiar with the structure of the datasets, become familiar with common analysis utilized by the groups, and develop an understanding of the trials. Finally, my main focus was working on post-hoc analyses of a closed trial for which the primary results had already been published. All of my analyses were validated and I validated other Biostatistician's work.

Results/Outcomes: I worked closely with the team of biostatisticians, which helped me develop and understanding of all the roles of the biostatisticians even if time limited me from being actively involved in project. Primarily, I created usable SAS programs and code while initially analyzing data and while validating others results. In addition, I edited manuscripts and created figures and tables from with the results obtained from my analyses.

Name: Shuanglu Zhang
Practicum Site: Massachusetts Council on Compulsive Gambling
Location: Boston, MA
Title: Research Intern

Introduction: Massachusetts Council on Compulsive Gambling is a private non-profit health agency that works to reduce the social, financial, and emotional costs of problem gambling. As a research intern, I worked under the Data Management and Evaluation Director. I helped to conduct a study to identify the size of the healthcare provider market that may be interested in gambling problems. Additionally, I assisted the Prevention Department with exploring existing effective prevention programs and information about gambling among the homeless population.

Methods: I utilized SNAP Professional survey software to create and analyze surveys and evaluations, such as a Pre and Post surveys of Treatment Providers that completed the Mass. Council's Training Institute. I also used SNAP to analyze and evaluate routine training classes, and the upcoming annual conference. I worked with a FileMaker Pro Helpline database to export and report on helpline data, and worked with an MS Access database to manage Council-wide activity. In terms of assisting the Prevention programs, I performed literature reviews of existing prevention programs on problem gambling or substance abuse, and gathered data and facts regarding gambling among the homeless population, using the Council database and BU library.

Results/Outcomes: I generated reports with statistical tables and visual displays from analyzed results of varying programs and events. A Fact Sheet regarding gambling and problem gambling among the homeless population was also drafted using the information collected from literature reviews.

Name: Yashan Zhong
Practicum Site: Health Dialog
Location: Boston, MA
Title: Analyst Intern

Introduction: Health Dialog is a total population health management company. The department of analytic development provides analytic supports to Health Dialog's business and Rite Aid's analytic inquiries. The interactive voice response project was implemented by the company this year. Before the implementation of the project, sample size estimation was needed for the project, and the poster presentation will talk about the sample size estimation process for the IVR project.

Methods: 1) Perform literature review regarding the sample size estimation 2) use SAS to conduct sample size estimation for different scenarios 3) apply tables and charts to represent the result.

Results/Outcomes: The sample size estimation has been completed using SAS. Different scenarios were considered for the estimation and appropriate statistic method were used accordingly. The results were presented in the form of tables and charts; also a statistical report of the project's sample size estimation has been generated.

BIOSTATISTICS

Name: Lujia Zhou

Practicum Site: Beth Israel Deaconess Medical Center

Location: Boston, MA

Title: Research Student Intern

Introduction: Readmission rates are increasingly used as an outcome metric by which quality of care is judged. As there is little to no published data on readmission rates after interventional radiology procedures, it is critical that such procedure- and disease-specific data be established. Accurate determination of such rates require a two-tiered approach that combines single-institution analysis of baseline readmission rates and stratification of causes of readmission for a wide range of procedures with validation with national databases study.

Methods: To estimate the single-center, procedure-specific readmission rates, I worked with the Principle Investigator to 1) decide the most relevant time-point to assess readmission rate based on association with 90-day mortality rate; 2) select and analyze possible confounding factors affecting patient readmission rate, including patient characteristics and causes of readmission. To validate results

Results/Outcomes: 30-day readmission rate was decided to be most relevant to the 90-day mortality rate after interventional radiology. A scientific manuscript will be prepared to submit to a peer-reviewed journal in the related field. Findings from this study will be used as a guide for further analysis with Medicare data.

EPIDEMIOLOGY

Name: Ting Fang Alvin Ang

Practicum Site: Boston University School of Medicine

Location: Boston, MA

Title: Student Practicum with the China - United States Research for Healthy Aging Network

Introduction: With a rapidly aging population, China currently faces the health challenge of a rising prevalence of chronic diseases, creating dire healthcare and economic consequences. A joint China-U.S. Aging Well Initiative is underway that applies a comprehensive, cross-disciplinary approach to identify the determinants of lifelong physical, cognitive and emotional health. Modeled after the famed Framingham Heart Study, the China-U.S. Research for Healthy Aging Network (CURHAN) seeks to establish a shared data collection effort that will provide the foundation for a national longitudinal cohort study on age-related chronic diseases. Unique to the CURHAN initiative is the integration of conventional epidemiologic data collection methods with novel digital technologies to create opportunities for high precision health-related metrics.

Methods: This project involved working with experts in various fields and state departments from U.S. and China to develop internationally applicable measures of aging, build functional research protocols for clinical application, harmonize data collection methods between United States and Chinese collaborators, and create training materials to standardize aging assessment. In addition, we collaborated with the mHealth technology community to identify new methods for remote data collection.

Results/Outcomes: We have successfully collaborated with experts in various fields to compile the CURHAN master protocol for our Chinese counterparts to translate into Chinese and for conversion into a digital version. Currently, we are working on a training manual for the ground staff, who will be interviewing and assessing the participants

Name: Karthik Arulsevam

Practicum Site: HealthStreet

Location: Gainesville, FL

Title: Research Intern

Introduction: HealthStreet in Gainesville, FL is a community engagement program that links underserved individuals to medical and social services and provided me the opportunity to become more aware of prevalent public health issues. I participated in community outreach by traveling with health workers to areas of low socioeconomic status and administered health assessments, blood pressure checks, and HIV testing to underrepresented individuals. My research project involves comparing veteran and non-veteran populations, analyzing the associations between their health concerns and the prevalent health conditions among the respective cohorts.

Methods: My role involved data collection, input, and analysis based on the health intakes. Statistical analysis was performed using SAS and the HealthStreet database. The key predictor variable was Veteran Status and the key outcomes were the prevalent health conditions found in the respective populations. Analyses involved computing prevalence proportions and performing chi-square tests. Simple regression models were also used with the prevalent health condition as the outcome and veteran status as the predictor. Adjusted analyses involved multiple regression models with potential confounders.

Results/Outcomes: After controlling for age and sex, the top 3 health conditions among veterans were (1) vision, (2) muscle/bone, and (3) heart/circulation related and among non-veterans were (1) dental health, (2) muscle and bone (3) vision. All associations were found to be statistically significant. The team is currently investigating how these conditions relate to the top health concerns among these populations to assess how they match up and if not how to better align them to improve population health and reduce disparities.

Name: Nour Al-Hoda Baghdady

Practicum Site: Resist-TB

Location: Boston, MA

Title: Researcher

Introduction: The goal of this project was to identify whether the recently approved anti-tuberculosis medications, bedaquiline (Sirturo®) and delamanid (DelybaTM), are registered in high burden MDR-TB countries and if other means of access exist if they are not; including compassionate use (CU) and expanded access programs (EAP).

Methods: After identifying all 27 high burden MDR-TB countries, drug regulatory agencies were identified in such countries and drugs were searched for official registration. Otherwise, the regulatory agency or a point person was contacted to determine if there are other means for accessing the drugs if needed. The manufacturing companies, Janssen and Otsuka, were also contacted to explain what barriers they faced with drug registration in different countries and if they have participated in CU and EAP programs.

Results/Outcomes: After identifying all high burden MDR-TB countries, drug regulatory agencies were identified in such countries and drugs were searched for official registration. Otherwise, the regulatory agency or a point person was contacted to determine if there are other means for accessing the drugs if needed. The manufacturing companies, Janssen and Otsuka, were also contacted to explain what barriers they faced with drug registration in different countries and if they have participated in CU and EAP programs. In conclusion: These medications continue to have limited accessibility in countries that need it the most. More information is needed on whether CU and EAP can be feasible in such countries to promote accessibility.

EPIDEMIOLOGY

Name: Vivian Baird-Zars
Practicum Site: Milton Board of Health
Location: Milton, MA
Title: Milton Substance Abuse Prevention Coalition Intern

Introduction: The Milton Substance Abuse Prevention Coalition was formed by the Milton Board of Public Health in late 2015 with the mission statement to "work together to save lives by increasing awareness, interventions, and resources for Milton residents that address the causes, stigma, and consequences associated with substance abuse, addiction, and mental illness". The project started the data collection process, working with a committee to evaluate and synthesize local and state data.

Methods: I assisted the Coalition with the first phase of their community assessment: researching, assessing, and organizing quantitative data related to substance abuse and mental health in Milton. This involved a) researching and contacting potential resources including MDPH, Fallon Ambulance, and other local resources, b) analyzing data and creating tables and graphs, c) presenting at community meetings and creating a draft Community Assessment Report. The qualitative data assessment process began recently, and I assisted with two youth focus groups before my time with the coalition ended.

Results/Outcomes: Creating a complete picture of substance abuse and mental health in Milton is an ongoing process. With the assistance of the committee and full coalition we made progress in the community assessment process. All available data was presented at community meetings, and a report was created and distributed highlighting Milton's higher than average alcohol use and growing heroin problem. The practicum gave me the opportunity to use data evaluation, analysis, and presentation skills learned at BU, and a practical knowledge of the community assessment process.

Name: Carly Calabrese
Practicum Site: Massachusetts Department of Public Health
Location: Boston, MA
Title: Intern

Introduction: The state of Massachusetts consists of 351 towns, each with their own varying levels of health quality. A needs assessment was conducted in order to rank each town in order of highest need to lowest need in terms of each town's level of health access and health status, for the purpose of identifying the highest needs towns and their specific health issues. This will help to better guide the Department in future program implementation to efficiently distribute resources and target programs to address the specific needs of these towns.

Methods: I conducted the needs assessment by 1) Identifying indicators to collect data on to best reflect community health; 2) Data collection from varying sources such as BRFSS; 3) Creating a scoring system to rank the towns; 4) Identifying the highest needs towns and the indicators they need improvement in; 5) Wrote a report with my supervisor to sum the results.

Results/Outcomes: The results of the analysis ranked each town from highest need to lowest need, with the top 5 towns in highest need analyzed for which health areas need improvement. The common trends in these towns are that they have lower economic status than the low needs towns, lower access to health care providers, and the health indicators that need the most improvement are mental health, obesity, elderly health, diabetes, and substance abuse. This data will be used for future program implementation and resource allocation to address the health care gaps identified.

Name: Daniel Cheng
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Enhanced Recovery After Surgery (ERAS) Protocol: A Clinical Quality and Patient Safety Project

Introduction: Enhanced Recovery After Surgery (ERAS) is a protocolized set of evidence-based best practices, aimed at reducing the time required to recover from surgery. In October 2015, Boston Medical Center began implementing an ERAS protocol. Information about compliance and outcomes were largely unknown. Analysis is crucial to improve implementation and plan for dissemination. Analysis of compliance can identify points of failure and elucidate the causes. Analysis of patient lengths of stay (LOS) will reveal the effects of ERAS.

Methods: We performed a comprehensive chart review from October 2015 to January 2016. A step-by-step tutorial was created on how to obtain the variables. Data collection and organization proceeded. Compliance of variables was analyzed against protocol goals. We obtained feedback to identify possible causes of non-compliance. We connected with an outside institution to explore dissemination strategies. A plan to compare LOS in comparable historical populations was proposed.

Results/Outcomes: A partial data-set of was obtained. We discovered that data collection is a tedious process given the fragmented nature of chart reviews. A consolidated strategy should be explored, and it may be necessary to track only a few key variables. Compliance with intra-operative fluid management is poor, due to lack of awareness of protocols. In order to improve compliance, a core group of anesthesiologists will be involved. Protocols will be more available with improved education. Optimal dissemination needs to occur in a deliberate manner. In a retrospective cohort study comparing ERAS patients to historical patients, we anticipate a lower LOS in the ERAS cohort.

EPIDEMIOLOGY

Name: Meenakshi Chivukula

Practicum Site: World Health Organization Regional Office for South-East Asia

Location: New Delhi, India

Title: Intern, Essential Drugs and Medicines Unit of the Department of Health Systems and Development

Introduction: Without good data it is not possible to improve access to essential medicines. However, despite overuse and misuse of medicines, data on medicine use is limited. "Medicines in Health Care Delivery" is a new rapid assessment tool designed as a situational analysis for lower and middle income countries to gather information on medicine supply, selection, use, regulation, and policy over two-weeks. The purpose of this practicum was to create a database and analyze raw data collected from eight country situational analyses (2014-2016) from out-patient department (OPD) prescription audits and patient registers from public and private health facilities and retail pharmacies with a focus on the prescribing practices of antibiotics, metronidazole, analgesics, systemic steroids, and antacids and acid blockers.

Methods: A database of facility-level data on % patients prescribed antibiotics, metronidazole, analgesics, systemic steroids, and antacids and acid blockers for eight of the eleven South-East Asia Region Member States (Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor-Leste) was created. Also, case-level data for patients prescribed antibiotics, metronidazole, steroids and antacids was extracted into individual workbooks. An analytical plan was devised to summarize regional trends.

Results/Outcomes: This is the first analysis of case-level data collected from the "Medicines in Health Care Delivery" tool. Though the analysis is not generalizable, this project indicates utility in analyzing raw data to illustrate regional trends on the use of specific medicines. Furthermore, possible interventions to improve prescribing practices are suggested, such as regional, country and facility-level policies tailored for particular contexts.

Name: Lauren Costa

Practicum Site: Boston University School of Public Health

Location: Boston, MA

Title: Student Researcher

Introduction: In 2010, the paper "Using Vital Registration Data to Update Mortality among Patients Lost-to-Follow-Up from ART Programs: Evidence from Themba Lethu Clinic, South Africa" was published. The study estimated the rates of mortality in patients lost to follow up (LTFU) from an HIV clinic in South Africa. Since publication, thousands more patients have sought treatment at this clinic, and patient data has been recorded and updated. Updating the associations previously studied creates up-to-date clinic information, allowing program effectiveness to be evaluated and at-risk patients to be identified.

Methods: An updated dataset from the Themba Lethu clinic was obtained, with updates on old patients and information on thousands of new ones. Vital status was verified through the Vital Registration System in South Africa, in order to compare mortality rates in those LTFU before and after linkage to the registry. In addition, potential predictors that increase risk for LTFU will be assessed in order to identify high risk patients.

Results/Outcomes: Mortality is expected to be underestimated in patients LTFU from Themba Lethu Clinic. Updating this information provides opportunity to determine true mortality rates in those lost to follow up, and identifies predicting characteristics that may increase ones risk of LTFU or death. Analysis of results are ongoing and will be conducted using SAS.

Name: James DeRosa

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Research Assistant

Introduction: Autism Spectrum Disorder (ASD) has seen a 50-fold increase in prevalence over several decades. This is in part due to better understanding of ASD, new diagnostic criteria and better surveillance systems, however there is a need for additional exposure assessment information. Our study team consisting of physicians from BMC, and students from BUSOM and BUSPH are investigating the relationship between ultrasound exposure and the development of ASD.

Methods: My role was to provide guidance on epidemiologic study designs and biostatistical methods. We prepared a case-control study design and responsibilities included data collection, entry, cleaning and preparation of statistical tests that would create meaningful results. We conducted biweekly meetings in which I was called upon to offer critiques enhancing overall precision and ease of data collection. Between meetings I was regularly collecting ultrasound data at BMC as well as converting this data to an acceptable SAS format. Activities such as data cleaning, analysis and management are paramount and necessary exercises to any student in the epidemiology program. This experience has represented challenges and conflicts when dealing with data and converting it into information that is both meaningful and acceptable.

Results/Outcomes: Currently we are creating an abstract for an upcoming conference and have hopes of writing manuscripts for future papers. We hope that our data will represent enlightenment to the use of ultrasound across the country. The standard of care for ultrasounds is currently 1-2/pregnancy, however this number has risen to over 5/pregnancy with little research done on its fetal effects

EPIDEMIOLOGY

Name: Tia DiNatale
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Research Assistant for MOON Study

Introduction: The US is experiencing a drug overdose epidemic involving prescription opioid medication and illicit opioids. Increasing the availability of naloxone, the opioid overdose antidote, saves lives but there are barriers to naloxone access. The MOON study was designed to identify barriers to naloxone access in the pharmacy, maximize opioid safety awareness, and increase distribution of naloxone through pharmacy-based initiatives.

Methods: We reviewed and redesigned a patient educational pamphlet to be provided to all patients in MA and RI pharmacies. In addition, we conducted a focus group and phone-based qualitative interviews with drug treatment programs/clinics to identify optimal models of naloxone distribution as well as efficacy factors, and we are conducting informational interviews for quality improvement with approximately 8-10 pharmacy technicians to discover possible training opportunities and improvements.

Results/Outcomes: The focus group tested educational pamphlet on naloxone will be provided to all patients in MA and RI pharmacies. We have also launched a poster contest, open to the general public, to raise awareness of the opioid epidemic and naloxone. Lastly, through ongoing interviews with treatment facilities and pharmacy staff we are identifying pharmacy based naloxone efficacy factors through the assessment of structural characteristics that increase and/or hinder distribution.

Name: Ela Fadli
Practicum Site: ARIAD Pharmaceuticals, Inc.
Location: Cambridge, MA
Title: Global Transparency Data Analyst

Introduction: With Pharmaceuticals being one of the largest and most profitable industries (with a projected growth of 4%-8%), it is important to have transparency on all interactions between these companies and healthcare providers/organizations (HCP/HCO) in order to avoid undue influence. The Physician Sunshine Act aims to bring transparency to the financial exchange between pharmaceutical companies and healthcare providers and organizations. The intent of the Sunshine Act is the transparency these relationships and potential biases that arise from them.

Methods: This practicum involved comprehensive data validation for the 2015 submissions to the CMS (Centers for Medicare and Medicaid). Validating the data necessary to generate this report required familiarity with the requirements of the Sunshine Act. I reviewed multiple data sources, validated physician identities, cross-referenced MediSpend (reporting database) with CMS data. I encountered some issues confirming particular healthcare practitioners and organizations. Furthermore, certain states had additional regulations which required the inclusion of nurses and pharmacists as well.

Results/Outcomes: Using this data, we could see that the top ten pharmaceutical companies have consistently spent more on marketing than on research and development. The majority of this funding seems to target physicians and health care prescribers rather than consumers. The Sunshine act may have originally created a sense of accountability and made many HCO and HCPs reluctant to be associated with the pharmaceutical companies, however based on the trend that shows increased spending in marketing, we can conclude that this hesitancy has all but disappeared.

Name: Asha Farmer
Practicum Site: Centers for Disease Control and Prevention (CDC)
Location: Atlanta, GA
Title: Graduate Student Data Analyst - PLAY-MH

Introduction: Project to Learn about Youth Mental Health (PLAY-MH) is a study that collects screening data on school-aged children from teachers, and diagnostic interview data from parents and the children themselves. The current data is of adolescents in grades ranging from kindergarten to twelfth grade from the states South Carolina and Colorado. The study tests the prevalence of many different mental health disorders. This section focused on tic disorder symptoms and Tourette's disorder.

Methods: I worked closely with the lead Biostatistician of the project to transfer the questionnaire to match the new DSM-V code for tic disorders. We worked in SAS throughout my practicum to continuously run new codes and develop new questionnaire transferred from the previous DSM-IV manual.

Results/Outcomes: I developed a scoring algorithm for a measure designed to identify children who meet criteria for tic disorders that was newly developed for this project and used collected data to test the scoring algorithm on SAS.

EPIDEMIOLOGY

Name: Julia Fearrington
Practicum Site: Boston University School of Public Health
Location: Boston, MA
Title: Research Assistant

Introduction: Stable housing is a key determinant of health and well-being for mothers and children. Boston's Healthy Start in Housing (HSiH) program provides housing support to medically at risk pregnant women who suffer housing stress with the aims to improve maternal and child health outcomes. Little evidence exists demonstrating how stable housing contributes to improved family outcomes. This investigation compares parenting practices of unhoused and housed HSiH and unhoused comparison group mothers to national norms to determine how stable housing affects family routines. **Methods:** To evaluate parenting practices and family routines, I cleaned questionnaire data from 86 HSiH participants and calculated summary statistics for age-specific infant, child, and preschool-aged routines using SAS. Family routines for housed and unhoused mothers were compared to national norms reported in the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B) **Results/Outcomes:** Age-specific family routine data show that unstably housed mothers engaged in infant routines, including playing peek-a-boo, tickling, going outside, and reading books, less frequently than national norms (p -values <0.01). Stably housed mothers reported similar frequency of infant routines compared to national norms, suggesting that stable housing may improve these family routine practices (p -values >0.05). Further analyses comparing family routine data to national norms for other child age groups are ongoing and results will provide evidence of the effect of stable housing on family routine practices. Understanding the impact of housing status on family routines provides an opportunity to identify areas to improve these outcomes.

Name: Allison Froman
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Research assistant

Introduction: The prevalence of Autistic Spectrum Disorder has been increasing in America with no known cause for the neurologic disorder. Researchers at Boston Medical Center are currently investigating if fetal ultrasound exposures are related to the development of ASD in early childhood. This study is a retrospective case-control study which compares fetal ultrasound exposures between three groups of children: those diagnosed with ASD, those diagnosed with some form of developmental delay, and children with normal development.

Methods: Personal responsibilities within the research group have included: contributing epidemiological knowledge for study methods and protocols; going through subjects' ultrasound images and collecting ultrasound variables such as depth, frequency and power; organizing and coding the raw data for analysis in SAS; using SAS to calculate study variables; data analysis; writing summaries of data analysis; and presenting summaries during research meetings to group members.

Results/Outcomes: Currently the data is being analyzed to see if exposures vary across the three subject groups. Preliminary results have found no statistical differences in mean ultrasound exposures across the three outcomes of autism, development delay and typical development within the pilot study cohort

Name: Nicole Golonski
Practicum Site: Harvard Pilgrim Health Care Institute
Location: Boston, MA
Title: Student Intern - Data Analysis

Introduction: We are interested in the management and analysis of data collected by the USAID-program Securing Ugandans' Right for Essential Medicines which focused on Uganda's supply chain establishing a transparent pharmaceutical management system to reduce medicine stock-outs and waste. Our analysis focuses on results of the supervision, performance assessment, and recognition intervention aspect of this project. The SPARS intervention aimed to improve medicine management in public and not-for-profit health facilities to ensure Ugandans access to adequate quantities of essential medicines and health supplies. Performance in SPARS intervention was assessed based on 25 sub-indicators covering five domains: dispensing, prescribing, stock management, storage management and ordering and reporting.

Methods: To effectively analyze the overall effect of the SPARS intervention on health facilities we investigated the consistency of the data collection tool and facility performance score per visit. We analyzed facilities overall SPARS score over time for longitudinal trends and stratified our analysis by region, facility level, facility ownership and visit number to identify potential confounders and data inconsistencies.

Results/Outcomes: As a result of the high number of outliers and non-normal trends found we investigated individual domain scores and sub-indicators to identify that the inconsistency in the data was due to large amounts of missing data. We conclude that if we thoroughly explain limitations of an analysis with missing data our analysis is still accurate in its demonstration of longitudinal trends in facility scoring and in showing the SPARS intervention improved facility performance in the five domains compared to control facilities over the study period.

EPIDEMIOLOGY

Name: Joshua Hartman

Practicum Site: Boston University School of Public Health

Location: Boston, MA

Title: A systematic review of potential barriers and facilitators to HIV pre-exposure prophylaxis uptake and adherence among people who inject drugs

Introduction: People who inject drugs (PWID) experience high risk of HIV acquisition. Antiretroviral pre-exposure prophylaxis (PrEP) is efficacious in preventing HIV acquisition if taken as prescribed and is recommended by the CDC for PWID. However, interventions to promote PrEP uptake and adherence among PWID have not been developed. The objective of this practicum was to perform a systematic review of qualitative and quantitative studies and review articles to inform future intervention research focused on PrEP for HIV prevention among PWID.

Methods: I conducted a systematic review of published research findings relating to barriers and facilitators of antiretroviral therapy (ART) utilization (for treatment or prevention) among PWID published between 2006 and 2016 using an automated search of four electronic databases (PubMed, EMBASE, Web of Science, and PsycINFO). Studies and reviews were eligible for inclusion if they involved predominantly PWID, focused on ART utilization outcomes, and provided information on strategies to address adherence, compliance, uptake, or retention in care.

Results/Outcomes: After excluding duplicates, the initial search produced 1051 unique records. Following screening by title and abstract, 97 full-text reports remain to be assessed for eligibility. From the eligible full-text reports, I will systematically review and synthesize findings regarding the complex barriers and facilitators to HIV treatment utilization among PWID to identify implications for PrEP-related interventions.

Name: Kelly Heuer

Practicum Site: Quintiles Consulting

Location: Cambridge, MA

Title: Biologic/Biosimilar Systematic Literature Review

Introduction: As patents for biologics on the current market begin to expire, there is an increasing demand for biosimilar development to help drive down costs and increase availability of these therapeutics. Due to specific regulatory requirements and clinical development demands, strategic planning is needed to provide scientific, regulatory, and commercialization support. The purpose of this practicum was to produce a literature review of the selected biologics Infliximab (Remicade®), Bevacizumab (Avastin®), and Adalimumab (Humira®) to aid future research.

Methods: A systematic literature-based review of these three specific biologics was conducted for articles published through March 2016 using the following databases: PubMed, National Library of Medicine, and Google Scholar. The epidemiology of therapeutic indications for specific geographic areas as well as the known safety profiles and existing risk management/pharmacovigilance plans were reviewed, followed by regulatory requirements for biosimilar marketing approval in the United States and European Union and a review of selected publications detailing non-interventional and post-marketing studies of the originator and existing biosimilars, if applicable.

Results/Outcomes: Although biologics are becoming widely used and have been the highlight of many key efficacy and safety studies in recent years, mainly short-term adverse events are recognized for these therapies. Infliximab and adalimumab have been associated with an increased risk of serious and opportunistic infections as well as malignancies, while bevacizumab has been associated with events ranging from tolerable fatigue to bone marrow suppression. Further research is needed to assess long-term effects of biologics, specifically in special populations not included in clinical trial data.

Name: Fei Huang

Practicum Site: Massachusetts General Hospital

Location: Boston, MA

Title: Bioinformatician

Introduction: Chronic right ventricular pressure overload (RVPO) can be clinically identified during the acute pulmonary embolism (PE) onset, but little is known about the association of chronic RVPO and the presentation of the acute PE.

Methods: A prospective cohort study on patients with acute PE was followed in Massachusetts General hospital. Chronic RVPO was determined by transthoracic echocardiography (TTE), and patients were followed-up for outcomes of mortality and/or advanced therapies: systemic thrombolysis, catheter-based intervention, surgical embolectomy, or extracorporeal membrane oxygenation. My work focused on data cleaning, and statistical analysis/interpretation of the project. Multiple logistic regression analyses were used to determine the association of chronic RVPO and 7-day outcome of death/advanced therapy (composite outcome).

Results/Outcomes: Over 35 months, 355 patients were enrolled for this study. 117 (33%) patients had evidence of chronic RVPO. Patients with chronic RVPO were 5.6 years older ($p < 0.001$) and were in higher prevalence of Large PE (70.1% vs. 56.5%, $p = 0.013$). These patients also have lower shockindex (median=0.84 vs. 0.94, $p = 0.062$). By multiple logistic regression, chronic RVPO patients were found to have 1.8 (95%CI= 1.0-3.2) times the odds of having composite outcome compared to non-chronic RVPO patients, adjusting for gender, age, Large PE, and shockindex. Age was a confounder for the association.

EPIDEMIOLOGY

Name: Selby Knudsen
Practicum Site: Dana Farber Cancer Institute
Location: Boston, MA
Title: Research Assistant

Introduction: The purposes of this analysis were: 1) to compare cancer screening rates in the Community Benefits program to those reported by the Boston Public Health Commission's Healthy Boston Reports in 2007 and 2015, and 2) to identify demographic factors associated with cancer screening.

Methods: Data was entered into a database and cleaned. SAS software was then used to compute frequencies and to test for differences using chi-square tests and Fisher's Exact test. Logistic regression was used to test associations after adjusting for confounding.

Results/Outcomes: After excluding the participants from greater Massachusetts, the final sample size was 462, and 55.4% of the participants had undergone some type of cancer screening. Neighborhood cancer screening rates were similar in the two data sources, except for lower rates in the Dana Farber data for Boston ($p < 0.0001$) and Roxbury (0.03). Screening rates were also found to differ by age group ($p < 0.0001$), race (0.01), and insurance type (0.01), but only age group was significant after adjusting for confounding ($p < 0.0001$). The screening rates in our study were similar to those in the Healthy Boston Report, except higher screening rates in the Health Boston data for Roxbury and Boston. Cancer screening rates varied with age, but no other demographic variables after adjusting for confounding. Those in the 60-69 age group were not significantly different from the reference group (40-49), while all other age groups had significantly more people screened for cancer than those in the reference group.

Name: Catherine Lafferty
Practicum Site: Boston Children's Hospital
Location: Boston, MA
Title: Pediatric Environmental Health Clinic Assistant

Introduction: The Pediatric Environmental Health Center at Boston Children's Hospital sees children and adolescents exposed to a variety of poisons such as lead, pesticides and mercury among a list of others. The main public health problem addressed in my practicum was childhood lead poisoning.

Methods: The major activity that I participated in during this practicum was to create an educational fact sheet on Vitamin D for families of lead exposed children. This fact sheet included a description of what Vitamin D is, how it interferes with lead and the recommended daily amount and best dietary sources. This handout is included in the packet given to new patients in clinic. I also had the opportunity to attend clinic and kept a log of the patient's symptoms, treatments and the public health implications surrounding those visits.

Results/Outcomes: Creating an educational fact sheet on mold, which will include what mold is, types, causes, tips for homeowners and health effects and creating a pamphlet entitled "Resources to make your child resilient" (to lessen lead's effects) are the next steps of the practicum. This practicum has deepened my understanding of issues surrounding childhood lead poisoning, including adequacy of housing, costs of medical care and chelation medications, economics of housing remediation and expectations that public housing and Section 8 subsidized housing be lead safe. During this practicum, I also learned about legal aspects of conveyance of contaminated housing in purchase and sales and need for special developmental and educational assessments and services for affected children.

Name: Astrid Loomans
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Research Assistant

Introduction: Tuberculosis (TB) is an infectious disease most commonly affecting the lungs. In 2014, TB claimed the lives of 1.5 million people. Evidence has shown that the latent Tuberculosis infection (LTBI) ratio between men and women is approximately 2:1, and that the prevalence increases with age. The goal of my practicum was to conduct an in-depth literature review on the effect of age and gender on LTBI for the Principal Investigator (PI) at the Tuberculosis Clinical Diagnostics Research Consortium.

Methods: As an intern at the TBCDRC I conducted a literature review on the effect of age and gender on susceptibility to latent TB infection, filling out an excel master document with concise, relevant information from over 100 studies, which my colleagues and I reviewed. The articles ranged from household contact studies to prevalence studies. I also sorted the studies into five themes (LTBI, TB disease, gender disparity, immunology and BCG vaccine studies) to make it easier in the future for PIs to find information. I joined the bi-weekly TB interest meetings to expand my understanding of tuberculosis and learn about research studies currently being conducted.

Results/Outcomes: I assisted the PI in drafting the background for a manuscript using information from the literature review. The findings showed that the prevalence of LTBI increases with age and is generally higher in males, and that differences in rates between genders generally occur around the age of fifteen, and data from many studies interestingly suggests higher rates of LTBI in female infants and young adults.

EPIDEMIOLOGY

Name: Abbe Muller
Practicum Site: Resist-TB
Location: Boston, MA
Title: Research Project Coordinator

Introduction: Over 440,000 persons develop multidrug-resistant TB (MDR-TB: resistance to two important TB antibiotics, isoniazid and rifampicin) each year. Two new anti-tuberculosis drugs, bedaquiline and delamanid, have recently been approved by regulators in the US or Europe, but registration in most high-burden MDR-TB countries is lagging. “Compassionate Use” (CU) programs can provide access to lifesaving drugs prior to regulatory approval. Patients and their physicians face many logistical and legal roadblocks to participation in CU. RESIST-TB surveyed stakeholders in high-burden countries to assess the demand for CU and identify barriers to access.

Methods: Using snowball sampling we surveyed stakeholders--treating physicians, TB program staff, and regulatory authorities—to assess the extent to which CU programs meet patient demand. We explored the number of patients who could benefit from treatment with delamanid or bedaquiline, the number who successfully accessed treatments, and roadblocks restricting access to these drugs under CU.

Results/Outcomes: Bedaquiline has an average success rate of 48.09% across all WHO-regions for a total of 1285 eligible patient, Delamanid has an average of 48.66% success rate for a total of 182 eligible patients, and finally other investigational drugs there was less than 1% success rate for 416 eligible patients (exclusively in the European Region). Data from the survey will inform RESIST-TB’s strategy for advocating with manufacturers and local regulatory and public health authorities. In countries that have provisions that authorize CU, advocacy may be best directed at manufacturers to provide drugs to patients through the existing CU program.

Name: Felicity Namayanja
Practicum Site: Alliance for the Prudent Use of Antibiotics
Location: Watertown, MA
Title: Clinical Research Coordinator

Introduction: MedVadis is a clinical trial site where ~ 300 studies have been done in internal medicine. Phase II and III for safety and efficacy with a placebo or active drug comparator, in a parallel or rarely cross-over design. A few Phase I in healthy volunteers. Ongoing trials include osteoarthritis. Opioids are good analgesics but can trigger psychoactive effects, tolerance and addiction. Studies on nerve growth factor (NGF) inhibitors for chronic pain provide an alternative to narcotics. NGF binds to receptors on peripheral sensory neurons lowering the pain threshold. This can be blocked by monoclonal antibodies.

Methods: We submitted regulatory documents to sponsors and IRB. Generated data, conducted follow-up visits for drug efficacy and safety. Monitored AEs and SAEs. Belmont principles for protection of human subjects, beneficence and justice were followed. GCP, FDA guidelines and Site SOPs were applied in recruitment, clinical and laboratory procedures. Assessment of site recruitment patterns was done using archived files.

Results/Outcomes: Sponsors will analyze data. Satisfactory reports on study conduct by CRAs. Demographic data analysis included subjects’ sex, age, race, subject status and location. Out of 720 subjects, 302 (41.9%) male and 413 (57.4%) female. Age categories 10-19 (1.7%), 20-29 (10.8%), 30-39 (14.9%), 40-49 (23.9%), 50-59 (27.5%), 60-69 (13.9%), 70-79 (4.4%), 80-89

Name: Paige Nelson
Practicum Site: South End Community Health Center
Location: Boston, MA
Title: Diabetes Quality Intern

Introduction: With the evolving health care system across America, specifically after the Affordable Care Act implementation, community health centers are beginning to have a huge role in medical care. Many of Boston’s South End minorities use their local community health center to receive their non-life-threatening medical needs. The purpose of this practicum was to create a diabetes care management team that provides specialized, individualized care to users of local health centers who are considered high-risk for serious DM complications (HbA1C ≥ 9.0).

Methods: We reviewed current DM care guidelines from the American Diabetes Association to identify how frequently DM patients should undergo blood work, eye exams, and foot care. Using a computer software program called Azara Data Reporting and Visualizing System (DRVS), we designed an algorithm to extract information about these labs/exams, include results and dates, directly from each patient’s Electronic Medical Record (EMR). A list of patients who were considered high-risk and due or past due for routine care was compiled using Excel. We contacted these patients and scheduled follow-up appointments with their provider.

Results/Outcomes: We created a diabetes care management team that closely monitors diabetic patients, despite the challenges of working with a population where the majority are non-English speaking, and others regard health as a low priority. The list consisted of 738 patients, and of those, we were able to schedule appointments for about 25%. With much room for improvement, new patient care coordinators have been hired to ensure that the individualized health care approach to managing DM continues.

EPIDEMIOLOGY

Name: Thiago Oliveira

Practicum Site: Universidade Eduardo Mondlane (UEM) and Hospital Central

Location: Maputo, Mozambique

Title: Assessing and Building Surgical Research Capacity in Mozambique / Secondary Investigator; Research Methods Facilitator

Introduction: Surgical conditions, especially injuries and obstetrical emergencies, are unaddressed public health problems in Mozambique. Surgery faculty and residents identify limited training in research methods, and lacking surgical metrics data, as priorities for improvement. Within an ongoing collaboration between Universidade Eduardo Mondlane (UEM) and the University of California San Diego School of Medicine (UCSDSOM), we created and delivered a research-skills series for surgery residents, and developed surgical metrics data collection tools and protocols for the Ministry of Health.

Methods: A two-week curriculum on research methods and study design was created and delivered for the General Surgery Residents at Hospital Central de Maputo/UEM. Residents were encouraged to bring specific questions, and applied concepts directly to their research interests. A survey based on the WHO Safe Surgery Saves Lives metrics was developed to collect data from 11 district-level hospitals. The survey was tested and validated at a local hospital. An implementation protocol was written, and back-end data collection tools were created using Google Forms.

Results/Outcomes: Implementation of the data collection program is expected within the next year. Improving the Mozambican health system requires accurate, reliable data to estimate the scope of surgical disease, quantify existing resources, and inform future investments. Our implementation will pave the way for further efforts to collect public health data from hospitals across the country. Surgical residents will implement skills learned through our curriculum, and other research-skills building opportunities offered through the UEM/UCSDSOM partnership, to this project, their individual research, and their practice as surgical providers.

Name: Ifeoma Otuonye

Practicum Site: MA Department of Public Health

Location: Boston, MA

Title: School Based Health Center (SBHC) Intern

Introduction: The School-Based Health Center (SBHC) Program, administered by the Massachusetts Department of Public Health, provides comprehensive health care to at-risk youth, refugee and immigrant children, and children with special medical needs living in underserved areas in Massachusetts. 33 SBHC's currently offer primary healthcare and behavioral health services during school sessions to children from K-12. Providers at each of the 33 SBHC sites use a standardized form to assess psychosocial factors that are protective or risky. Based on the individual assessments and client's history, they implement specific interventions to reduce risks and encourage protective habits. This practicum's purpose was for analyzing the psychosocial data using SAS and designing report cards for the 2014-2015 school year. The PRECEPT program in the Department of Epidemiology sponsored this program.

Methods: While working with the SBHC epidemiologist, the development of the report cards involved 1) obtaining and preparing data collected from assessments of children for analysis, 2) merging excel worksheets together using SAS to create one dataset for each site, 3) summarizing data separately for each site using SAS, 4) creating macros for replication of report cards, and 5) designing the report cards.

Results/Outcomes: The report cards created were for 2 broad groups of children from 10 & under and 11 & up based on each site's clientele age range. The report cards will be used to compare the risks and resiliencies within the entire network of SBHCs to support the goal of SBHC care of keeping children healthy and in school.

Name: Debora Perez

Practicum Site: Boston University School of Public Health

Location: Boston, MA

Title: Research

Introduction: While the gap in access to sanitation and hygiene is well understood in developing countries there have been no systematic evaluations of access and hygiene behaviors in high income countries among those experiencing homelessness. Despite the importance of hygiene and access to sanitation, few studies have adequately explored it as a barrier to health in high income developed countries. The objective of this study is to investigate hygiene behaviors and associations among those who experience homelessness in Boston, MA.

Methods: An existing dataset was used to explore our objective. The dataset contained data from a cross-sectional study of individuals seeking care at the Boston Health Care for the Homeless Program in Boston, MA and asked participants about their utilization of showering, laundry and hand-washing facilities and related behaviors. Analyses will be conducted to explore predictors of low personal hygiene. The outcome variables included no daily showers, no daily handwashing, no weekly clothes washing, and clothes sharing. Chi-square analysis will be conducted to determine associations to predictor variables such as substance use, age, gender, and housing status. Spearman correlations will be used to assess associations between predictor variables. Multivariate logistic regression will be used to assess multiple predictors of low hygiene behaviors.

Results/Outcomes: We anticipate substance use will strongly correlated with low hygiene behaviors, as well as chronic homelessness and a unsheltered homelessness. Results of this study will be submitted to relevant journals for publication.

EPIDEMIOLOGY

Name: Avirath Purohit
Practicum Site: Boston Children's Hospital Pediatric Research
Location: Boston, MA
Title: Pediatric Anesthesia Research Internship

Introduction: At Boston Children's, the Anesthesia Care Research Unit and I worked on a comprehensive project that involved looking at the same predictors and outcome for two different procedures: Direct Laryngoscopy and/or Bronchoscopy (DLB) and Circumcisions. The main goal was to determine if a certain airway device and/or method of extubation (awake versus deep) could influence SET time (surgical-end-to-transport time) among our pediatric population adjusting for various potential confounders. Decreases in SET time can lead to lower patient time in the OR and cost savings for both the hospital and patient.

Methods: My role was to manage, statistically analyze, and present the results to the research team over the course of the study. The SET time variable was dichotomized based on the median values into "higher than median" and "lower than median" SET time groups for the two different types of surgeries (n= 1,539 (DLB) and 1,274 (Circumcision)). From this, multiple logistic regression models with dichotomized SET, as the outcome, were run to determine which predictors statistically have an effect on SET time. Those variables include: patient extubation status, airway device, ASA classification, gender, and age group.

Results/Outcomes: From the analyses, we found a significant association between airway device and SET time for both types of surgeries, after adjusting for the other model variables. These results can provide valuable information for future anesthetic practices. Since these variables are not the only variables involved in influencing OR time, the team is currently assessing and analyzing data on medications and vapors used during these surgical cases

Name: Elham Rahmani
Practicum Site: Charles Drew University /UCLA David Geffen School of Medicine
Location: Los Angeles, CA
Title: Researcher

Introduction: Self-Inflicted Harm (SIH) is a major cause of morbidity and mortality. Previous studies have shown different patterns of SIH among different racial groups. This study examined SIH admissions in Los Angeles County from 2001-2010 to determine whether race-specific SIH rates have changed.

Methods: Data were obtained for all SIH hospital admission in Los Angeles from 2001-2010 based on ICD-9 codes for schizophrenia, episodic mood disorders, depressive, anxiety, personality adjustment, sexual and gender identity disorders, alcoholism and substance abuses.

Results/Outcomes: There were 2459 SIH admissions over the ten-year period with the following racial distribution: African Americans (AA) (11.6/100,000), Caucasians (CC) (8.44/100,000), Latinos (LT) (6.21/100,000), and Asians (AS) (1.64/100,000). Over the 10-year period there was no change in the overall SIH rate (P = 0.31) or in any of the race-specific SIH rates. The median age of SIH was significantly lower in Latinos (LT = 28 versus CC=43, AA=39 and AS=40 (P < 0.001). Overall, episodic mood disorders were the most common psychiatric comorbidity, but varied by race (CC=56.9%, AS=47.7%, LT=41.8%, AA=39.5%; P < 0.001). In contrast, Schizophrenia comorbidity was greatest in AA (AA=20.84%, AS=10.49%, CC=10.47%, LT=8.00%; P < 0.001). The use of solid/liquid poisoning was the most common method of SIH among all racial groups.

Conclusions: Neither overall SIH rates nor racial patterns of SIH changed significantly from 2001-2010 in Los Angeles County, raising concerns about the effectiveness of programs aimed at decreasing SIH admission rates and/or reducing interracial disparity

Name: Ervin Rivera
Practicum Site: Boston Public Health Commission
Location: Boston, MA
Title: Asthma Epidemiology Intern

Introduction: As an intern working in the Community Initiatives Bureau (CIB) at the BPHC, I worked on their Boston Asthma Home Visit Collaborative (BAHVC). The BAHVC is a program that sends community health workers (CHWs) into the homes of Boston asthmatic residents with the goal to create healthy living environments that support asthma control. Its mission is to unify hospitals, physicians, CHWs, as well as other members in the community in order to create a network that is dedicated to preventing and reducing the amount of asthma-adverse outcomes in Boston residents.

Methods: I had monthly meetings with the CHWs in order to improve the efficiency of the questionnaire that they use in their home visits. I also analyzed the data collected in the BAHVC using REDCap and SAS in order to assess the effectiveness of the program. Furthermore, I have been collaborating with members from the Harvard School of Public Health as well as from the Massachusetts Department of Public Health in order to develop a standardized environmental scoring tool to be used in these asthma home visits.

Results/Outcomes: Improvements are still being made to the questionnaire but it is planned to be finalized in the near future. Analysis of the effectiveness of the program will be used in an attempt to get approved for further funding and for continuous quality improvement of the BAHVC. The environmental scoring tool project is still in development but I have contributed qualitative and quantitative data needed in order to get the project started.

EPIDEMIOLOGY

Name: Samuel Rubin
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Research Intern

Introduction: Many patients are treated annually at BMC in the Department of Otolaryngology for head and neck cancer. The two main objectives of this practicum was: 1) Collect and analyze data on patients with Human Papilloma Virus (HPV) positive head and neck cancers. 2) Draft a cross sectional study protocol to look at the psychological impact of transoral robotic surgery (TORS) on patients and their spouses.

Methods: The project involved a retrospective chart review of patients treated at BMC for head and neck cancer between January 2010 and March 2014 with HPV+ tumors based on p16 positive histological staining. I collected and organized the dataset based on 40 patients, and performed univariate and multivariate analysis including two-sample t-tests, chi-squared tests, Kaplan-Meier analysis with a log rank test for survival data, and multivariable logistic regression, using SAS.

I performed a comprehensive literature review of the psychological impact of head and neck cancers, and partially completed a cross-sectional study protocol to look at the psychological impact of TORS on patients and spouses.

Results/Outcomes: We project that patients who receive TORS will experience less depression and anxiety compared to historical data. There was no significant association found between marital status and overall survival ($p=0.3955$). However, there was a significant association between marital status and treatment modality with married patients having 10.43 odds, 95% CI (1.17,100.2), of receiving chemotherapy treatment compared to single patients. Married patients may be more likely to receive chemotherapy treatment because of spousal support during the painful and lengthy process.

Name: Petra Schubert
Practicum Site: Institute for Community Health
Location: Cambridge, MA
Title: CHA Workforce Survey Analysis and Reporting Internship

Introduction: In 2009, Cambridge Health Alliance (CHA), a large safety net hospital system, began its transition to an Accountable Care Organization/ Patient-Centered Medical Home. Since then, Institute for Community Health (ICH) has worked together with CHA leadership to administer, assess and analyze a yearly workforce survey to understand staff experience during this transition. For this practicum I was responsible for cleaning, analyzing and reporting quantitative and qualitative data from the survey.

Methods: I extracted data from the most recent survey administered in January to February 2016. I used Microsoft Excel and SAS 9.4 to perform extensive data cleaning, which involved excluding observations based on specified criteria, performing logic checks and conducting descriptive analyses of quantitative survey data. Lastly, I analyzed qualitative question responses for themes.

Results/Outcomes: I generated detailed reports for CHA leadership describing results for CHA as a whole, CHA sites and longitudinal trends. I found overall, 72% of CHA staff was satisfied with their current job. 78% believe their care team operates as a real team, while only 67% have the same sentiment about their practice; 66% huddle with their care team daily. The qualitative analysis revealed that CHA employees would like the administration to seek additional staff support, make changes that restore patient-centered focus, and be more present at CHA sites. These reports are intended to inform future

Name: Justin Tepe
Practicum Site: Boston University School of Public Health
Location: Boston, MA
Title: Research Assistant

Introduction: The Uganda 'WiseMama' Study is designed to increase our understanding of interventions that are feasible and effective in helping HIV-positive pregnant and post-partum women (PPPW) to maintain high adherence to antiretroviral (ARV) medications. HIV-positive pregnant and postpartum women (PPPW) face particular challenges adhering to antiretroviral therapy (ART). The scope of this practicum was to evaluate the potential utility of real-time medication monitors to provide SMS reminders triggered by late dose-taking and data-informed counseling to PPPW initiating ART.

Methods: ART-naïve pregnant women attending antenatal clinics in Entebbe and Mityana, Uganda used Wisepill, an innovative pill container equipped with real-time electronic data monitoring capacity. Signal lapses longer than 48 hours were categorized by behavioral and technical reasons and then further subcategorized. Adherence to ART using Wisepill was evaluated over a one month pre-intervention period using SAS statistical software.

Results/Outcomes: Among enrolled subjects, we identified 179 total signal lapses over the pre-intervention period (mean 1.1 lapse/subject over ~4837 monitoring days), of which 72 (40.2%) were due to behavioral, 58 (32.4%) to technical, and 49 (27.3%) to unknown reasons. Top behavioral reasons included fear of side effects (21/72, 29.2%), inconvenience (14/72, 19.4%), and fear of disclosure (13/72, 18.1%). Signal strength was the primary technical explanation (41/58 lapses, 70.7%). The adherence results are currently undergoing analysis and will provide a greater understanding of the practicality of real-time medication monitors among HIV-positive pregnant and post-partum women in low-resource settings.

EPIDEMIOLOGY

Name: Catherine Tong
Practicum Site: International Society for Disease Surveillance (ISDS)
Location: Brighton, MA
Title: Program Assistant/Project Coordinator

Introduction: The International Society for Disease Surveillance (ISDS) is a non-profit Boston-based member organization with a mission to improve population health by advancing the science and practice of health surveillance. One strategy is to advance the use of syndromic surveillance (SyS) approaches, which collect pre-diagnostic health and health-related data to provide near-real-time situational awareness for public health decision-making. To identify and address research gaps that impede SyS practice, ISDS is developing a research agenda based on input from subject matter experts (SMEs) in the global ISDS network.

Methods: As project lead, I conducted background research; provided project management to set timelines; developed a process for collecting, organizing, and synthesizing priority research questions; helped create the criteria and SyS categories on which to prioritize research questions (i.e., Informatics, Analytics, Communications and Systems Research); developed and fielded an electronic survey of SMEs; prepared agendas for and led bi-weekly team meetings; and helped to shape the process for review, analysis, and prioritization of the questions submitted. For my contribution, I will be a co-author when the research agenda is published in a special edition of Public Health Reports.

Results/Outcomes: Over 100 questions from 43 respondents from 15 countries were submitted for consideration. The final research agenda will include the questions prioritized for their applicability to public health, feasibility, and potential to leverage SyS to provide data to inform research direction, funding and public health decision-making.

Name: Chinenye Udokwu
Practicum Site: Boston University Medical Center
Location: Boston, MA
Title: Research Assistant

Introduction: Cervical cancer (CC) is an important global public health problem caused by preventable (through HPV vaccination) oncogenic types of HPV. To date, no feasible, replicable strategy has been developed to improve HPV vaccination in conjunction with CC screening. The purpose of this study is to examine acceptability of and strategy of combining adolescent vaccination (primary prevention) in conjunction with cervical screening (secondary prevention) in older women at one clinical site.

Methods: We are conducting formative qualitative interviews among providers and adult female guardians (AFGs) of adolescent girls to examine the strategy of discussing (a) vaccinating daughter while AFGs are being screened for cervical cancer, and (b) cervical cancer screening of AFGs while daughter is receiving HPV vaccination. Prominent themes across different provider types and practice care settings will be identified. We will identify themes associated with AFGs' attitudes regarding HPV vaccination and CC screening.

Results/Outcomes: Ten providers (5 from Adolescent/Pediatric and 5 from Family Medicine clinic) participated. AFGs interviews are still ongoing. Most adolescent/pediatric providers reported that discussing and performing CC screening with AFGs while their daughters are getting HPV vaccine is not their routine which may impact clinic flow and follow-up. Family medicine providers did not express any concerns. Overall, majority of the providers suggested the use of electronic medical record as a reminder to discuss with AFGs about getting CC screening while on their daughters' HPV vaccine appointment. Our results will have implications on how best to effectively integrate primary and secondary CC prevention model into one clinical program.

GLOBAL HEALTH

Name: Salma Abdalla
Practicum Site: Boston University School of Public Health
Location: Boston, MA
Title: Research Assistant

Introduction: This systematic review aims to examine the effectiveness of behavior and lifestyle changes in the prevention and treatment of diseases, with a focus on diet, physical activity, smoking and sexual behavior as exposures and Chronic diseases (coronary, respiratory, Hypertension, and diabetes) as outcomes.

Methods: - Set search keywords to identify relevant systematic reviews.
-Identify search databases and filters to capture the relevant systematic reviews.
- Extract and create a spreadsheet for captured reviews.
- Set up an exclusion system for captured reviews that is based on a number of exclusion rounds.
-Set up a revision system between the different reviewers to improve the reliability of the result

Results/Outcomes: - The initial database search identified 7435 results. The first exclusion round (exclusion of pharmacological/psychotherapy/non behavior based reviews) yielded 1162 results. The second exclusion round (exclusion of populations under 18 years/ no clear research question/ studies that are not systematic reviews/ reviews not targeting the individual) yielded 326 results. The third exclusion round (exclusion of theoretically based interventions) yielded 318 results. The review is currently undergoing the fourth round to identify systemic reviews with long term follow up (long term is defined as two years or more).

Name: Alice Achieng
Practicum Site: Massachusetts General Hospital
Location: Boston, MA
Title: Developing a Monitoring Tool to Determines Patient Experience of Transfer to Skilled Nursing Facilities (SNFs) Under Medicare ACO Three-Day Rule Waiver Program

Introduction: Medicare ACO (Accountable Care Organization) Three-Day Waiver Program allows patients to transfer to SNFs directly from home/doctor's office, as long as they've seen a medical doctor within three days, or through a hospital, without having to abide with the original Medicare Three-Day Rule that mandated three-day hospital stay, before such transfers. The level of Patient-Satisfaction is believed to affect clinical outcomes, patient-retention, and timely, efficient, safe and patient-centered, delivery of health care. Currently, there are no existing tools to measure Patient-Satisfaction during patient transfers to SNFs under Medicare ACO Three-Day Waiver Program. The purpose of this project was to develop a long-term quality improvement (QI) monitoring-tool that measures Patient Satisfaction pre-transfers and during transfers to SNFs.

Methods: The project comprised two phases. First, I conducted literature reviews, mapped-out survey design and reviewed IRB requirements. I then visited two SNFs to gain insight into respective facility-operations and introduce the project concept to the staff. The second phase focused on developing Survey-Methodology and included 1) developing survey drafts (three drafts) to refine the final Instrument 2) presenting the final survey draft to MGH & SNF QI teams 3) conducting Cognitive interviews at four SNFs in Boston 4) utilizing Cognitive interview outcomes and QI team-recommendations to improve the final instrument, and 5) writing the final Survey Instrument.

Results/Outcomes: The project was deemed QI. Final Survey Instrument was developed that targeted Care Continuity, Program Awareness, Communication, Patient Readiness and Patient-Centered Decision Making. The final Survey Instrument is scheduled for piloting in April, 2016.

Name: Alana Assenmacher
Practicum Site: Massachusetts Department of Public Health
Location: Boston, MA
Title: Early Intervention Intern

Introduction: The Early Intervention (EI) division at the Department of Public Health is a government bureau regulating and monitoring family-centered services to help qualifying children develop the skills they need to grow into successful members of society. The purpose of the practicum was to assess the value of current EI practices and what can be done to improve them, as well as to develop an education system to inform policy makers and clinicians on the seriousness of neonatal abstinence syndrome (NAS). With the growing opioid problem in Massachusetts, NAS has also become a critical issue in health outcomes. Increasing awareness of prevention efforts to policy makers as well as long-term NAS effects to program staff can improve overall health of families.

Methods: I observed program operations and attended training to gain familiarity with the programs and to assess knowledge of EI practices. Using survey data I evaluated the effectiveness of training sessions administered to EI program sites and determined benefits and areas of improvement. Specifically, I analyzed and composed survey data into reports to be used by EI staff to examine positive and negative aspects of current training sessions. I also compiled information on NAS to be used as a general report emphasizing key details on identifying and diagnosing NAS in newborns and important steps in combating the negative effects.

Results/Outcomes: The reports created will be used within the Department and in collaboration with other organizations to improve current practices and create next steps for addressing and combating the NAS issue in Massachusetts.

GLOBAL HEALTH

Name: Holli Childs

Practicum Site: Boston Alliance for Community Health

Location: Boston, MA

Title: Community Health Environmental Scan Assessment

Introduction: BACH is an alliance of community health leaders, coalitions, and community-based organizations in Boston. They work with city agencies and grass-roots organizations to improve overall health of Boston residents under five strategic issues. I staffed work groups for two of the issues: improving coordination of clinical and community-based prevention services and improving health outcomes by focusing on transportation policies and practices. I performed environmental scans using qualitative data collection techniques to determine the extent of the work being done for each issue in the city.

Methods: I wrote open-ended interview and survey questions, then used a snowball sampling technique to collect data from individuals regarding the work they have been doing and best-practices in the field. Ten surveys were filled out, and five interviews performed. I evaluated the data gathered based on type of work and the area in which it was done and compiled it in a report.

Results/Outcomes: The final product was a report presented to BACH with a summary of the work being done, the best practices in the field, gaps in outcomes, and recommendations for the future. BACH serves as a convener of many organizations to address issues on a broader scale. They also provide small scale funding to smaller groups. The report will serve as a guide to know where funding should be applied, and what groups should be convened to work on specific issues, in order to reach the entire Boston population.

Name: Lauren Hodsdon

Practicum Site: Swasti Health Resource Center

Location: India

Title: Intern

Introduction: Swasti health resource center, based in Bangalore India, provides consulting services and technical development, along with managing interventions in Sexual Reproductive Health, Gender Based Violence, Life Skills Development, Social Protection, and Water, Sanitation and Hygiene. Although based in India, Swasti has worked in over 15 countries in Asia and Africa over the past 12 years.

Methods: During my practicum, I worked on a grant proposal to the Global Fund for health system strengthening in Pakistan. I performed background research on Pakistan's existing health system and the current infrastructure used to fight AIDS, tuberculosis and malaria. I drafted the country context section, requiring research on the current health system and key at risk populations in Pakistan. In addition, I designed and created all descriptive diagrams, and was assigned the role of editing and collating the entire proposal. I also held the role of proposal manager, where I held the knowledge on specific proposal instructions and ensured our adherence to those guidelines. Beyond the proposal, I spent a week in the field collecting qualitative data from a household survey designed to analyze the success of a community water plant in the rural area of Chikkaballapur. I then generated a donor report on our findings, leading to additional funding for a subsequent water plant.

Results/Outcomes: Swasti obtained the approval of Pakistan's Country Coordinating Mechanism, including all key stakeholders within the Pakistani health sector, and submitted the proposal. The proposal was approved and is currently being implemented in Pakistan.

Name: Jennifer Johnson

Practicum Site: Brookline Department of Public Health

Location: Brookline, MA

Title: Improving Internal Efficiency to Strengthen Community Emergency Preparedness

Introduction: The Brookline Public Health Emergency Preparedness Department (EPD) serves the town through maintaining a strong medical reserve corps (MRC), which focuses on vulnerable population preparedness and engages in interagency coordination. Many of the programs executed by the EPD did not have documented standard operating procedures (SOP), making the programs difficult to replicate. Equipment and supplies had not been vetted for functionality, nor did they have SOPs for storing, maintenance, or use.

Methods: Existing SOPs were updated; and in places that did not have SOPs, the procedures were conceptualized, tested, standardized, and documented for future use. MRC and Emergency Preparedness Buddies (EPB) outreach tools were enhanced through updating and restructuring the MRC website and on-boarding new EPB beneficiaries. Supplies and equipment for emergency preparedness and response activities were determined by conducting an inventory review, testing equipment functionality, researching new equipment, creating a budget, and procuring new equipment where necessary.

Results/Outcomes: Existing SOPs were updated; and in places that did not have SOPs, the procedures were conceptualized, tested, standardized, and documented for future use. MRC and Emergency Preparedness Buddies (EPB) outreach tools were enhanced through updating and restructuring the MRC website and on-boarding new EPB beneficiaries. Supplies and equipment for emergency preparedness and response activities were determined by conducting an inventory review, testing equipment functionality, researching new equipment, creating a budget, and procuring new equipment where necessary.

GLOBAL HEALTH

Name: Yen-Han Lee

Practicum Site: Boston University School of Public Health

Location: Boston, MA

Title: Graduate Research Intern in Department of Biostatistics

Introduction: Since the early 21st century, the Chinese society has embraced progressive social changes and reforms, that these developments directly have had strong influences on economy, business market, social welfare, living condition, education, health services utilization, life expectancy, and many other important social factors. However, improvements on health services utilization have helped the Chinese residents to have better quality of life; from another perspective, education has also played an important role to improve for higher socioeconomic status, competition, and job market in the modern Chinese Society since then. With a higher level of socioeconomic status, many Chinese residents have started to seek for better social goods and social constructions; thus, access to sufficient and effective health services is an important need for residents because people are able to afford for more healthcare services.

Methods: Our research project focuses on the associations between individuals' education level and monthly payment to health insurance coverage. We selected SAS databases from the Chinese Health and Nutrition Survey (CHNS) at University of North Carolina-Chapel Hill. In this research project, R (version 3.2.3) will be used as main statistical software to conduct most analysis work (such as summary of statistics and regression analysis) and the databases will be converted from SAS format to compatible format for R.

Results/Outcomes: Our results from statistical analysis showed weak causal effect between education level and monthly payment to health insurance coverage in Mainland China. We found similar results between education and health outcomes in the research by Xie and Mo (2014).

Name: Mireille Levy

Practicum Site: Brookline-Quezalguaque, Nicaragua

Location: Brookline, MA

Title: Research Assistant at Brookline-Quezalguaque Sister City Project

Introduction: There is an epidemic of chronic kidney disease of unknown etiology (CKDu) in the department of Leon, Nicaragua that disproportionately affects young men, certain occupational groups, and selected geographic areas. The town of Quezalguaque in Nicaragua is a locality with a CKDu cluster. In 2008, a seroprevalence study with a nested case-control study was conducted in Quezalguaque. Important limitations of these studies are their cross-sectional nature and lack of follow-up. As a result, questions such as incidence rate of new cases, years of survival among those already diagnosed, speed of progression, and proportion of false-positive misclassification have not been answered.

To address the questions above, a follow-up of the case-control study in Quezalguaque was conducted (n=319). The goals of this study were to determine participant health status and identify exposure factors through collection of information from questionnaires and biological samples

Methods: Collaborate with local officials to conduct a follow up of the 2008 case-control study, administrate interviews and obtain biological samples. Additionally, I managed the supply chain of medical materials, generated the results for the lost-to-follow up, processed urine samples, and developed a controlled database using MS Access.

Results/Outcomes: Follow up completion, a qualitative report to the mayor's office, a preliminary quantitative report to lead investigators, creation of an interactive database, and transportation of biological samples and surveys to the United States.

Name: Maia Nofal

Practicum Site: Boston Center for Refugee Health and Human Rights

Location: Boston, MA

Title: Refugee Client Support

Introduction: In recent years, the US has seen an increase in the number of refugees and asylum seekers entering the country due to increased political unrest and human rights violations across the globe. The Boston Center for Refugee Health and Human Rights seeks to provide mental health services to asylum seekers and refugees entering the country, a much needed service due to the extremely high rates of PTSD and depression. As an NGO, the Center requires public support to continue its work; promoting public awareness of the social and political context of migration is key to its success.

Methods: This practicum consisted of creating composite stories highlighting the histories of torture survivors getting mental health services at the Boston Center for Refugee Health. These composites are created by combining the histories of several patients with similar stories. The goal is to convey a typical narrative that describes the sequence of events that leads people to leave their families and homes for the US. These narratives seek to remain true to the fear and turmoil these individuals experience while also protecting their identities.

Results/Outcomes: In the future, the composite stories will be used to create empathy and broaden cultural sensitivities among the Boston community. The hope is to deconstruct stereotypes about immigrants and refugees in the US and promote support for the Center and clientele it serves.

GLOBAL HEALTH

Name: Odette Ponce

Practicum Site: IZUMI Foundation

Location: Boston, MA

Title: Analyzing Health Indicators in Sub-Saharan Africa to Assess Geographic Funding Priorities for the IZUMI Foundation

Introduction: IZUMI Foundation is a Boston-based, nonprofit organization that gives assistance to the world's poorest people by supporting programs that improve health in Africa and Latin America. The goal of the practicum project is to help IZUMI Foundation reevaluate its funding geography in Sub-Saharan Africa in order to determine where program grant dollars may be most effective.

Methods: I first researched and compiled a wide variety of health and development indicators, based on IZUMI Foundation's five funding priorities. For each of the selected indicators, data was collected from reputable sources for all countries in Sub-Saharan Africa. With the country-specific dataset, I identified appropriate ways in which to sort and classify the data in order to create a comparison across the countries. Each indicator classification was assigned a numerical value, and countries were given a score by totaling their numerical values. The indicator scores were color coded using a red, yellow, green classification so that countries could be visually compared to one another. Countries were then ranked based on their indicator score. I will develop a concise report to present the overall findings of the research and analysis conducted, including recommendations for IZUMI Foundation's funding geography.

Results/Outcomes: IZUMI Foundation's grant making process is multifaceted. The deliverables from the practicum project will allow the IZUMI Foundation to review country-specific data to help guide the Foundation's funding geography and make informed decisions about where funding dollars may have the greatest health impact.

Name: Alexandra Restina

Practicum Site: Boston University

Location: Boston, MA

Title: Teen Dating Violence Prevention/Porn Performers, Social Media, and Public Health

Introduction: The scope of work performed was for two separate research projects concerning two different public health issues. The first was for the Real Talk study, which addresses the issue of preventing teen dating violence. This study involved interviews with teens at risk or who have experienced teen dating violence. The second was part of a student led study concerning the influence of porn performers on people's understanding of sexual health issues using the social media accounts of the porn performers.

Methods: For the Real Talk study, the activity performed was transcribing the preliminary interviews between the subjects and the researchers. For the student led study, the activity performed was coding the tweets of porn performers into different categories.

Results/Outcomes: Both projects are still ongoing, but the projected outcomes of the Real Talk study will regard what effect motivational interviewing will have on teen dating violence, an important topic given the current status of domestic violence in this country. Hopefully this will help these teens remove themselves from dangerous situations and give them the tools needed to avoid future ones. For the student led study, the projected outcome is what porn performers are doing with their social media influence and how it may effect public health perceptions. This is important because social media gives people more access to these performers than ever, and many people learn about sex from porn and porn performers.

Name: Kasthuri Sivalogan

Practicum Site: Dana Farber

Location: Boston, MA

Title: Do CVADs Improve Patient Outcomes in a Pediatric Oncology Hospital in Cairo, Egypt?

Introduction: The Children's Cancer Hospital 57357 in Cairo, Egypt is a privately-funded pediatric oncology hospital that provides all services free of charge to patients who are diagnosed with cancer in Cairo. Stage I and Stage II Wilms tumor patients currently receive chemotherapy and other drugs from peripherally-inserted central catheter's that are uncomfortable, easily dislodged and painful when inserted in young patients. A nurse-implemented study led by Dana Farber and Boston Children's Hospital's Global Health Initiative aims to understand whether the use of central venous access devices (CVADs), specifically the use of Port-A-Cath (PAC), improves pediatric outcomes for Wilms tumor patients.

Methods: The proposed study began with designing a study proposal to be approved by the IRB equivalent board in Cairo, Egypt. The project will be implemented in two phases, Phase I will include a retrospective chart review of pediatric Wilms tumor patients admitted to CCH 57357 during a 3-year period to identify the number of CVADs, PICC and PAC being inserted, removed and the reason for removal. Phase II of the study will be the intervention aspect of the study, the intervention arm will receive PACs and the control arm will receive the current standard of care.

Results/Outcomes: Both study arms will be monitored for specific outcomes to determine whether the use CVADs for Wilms tumor patients prevents infection and improves patient outcomes. Both Phase I and Phase II will be monitored using quality control measures and the entire project will be managed using a process map, Gantt chart and budget.

GLOBAL HEALTH

Name: Sophia Tarzaban

Practicum Site: Boston Public Health Commission

Location: Boston, MA

Title: Boston EMA Ryan White Planning Council Comprehensive Plan Internship/Intern

Introduction: The purpose of my practicum was to provide support for the Boston EMA Ryan White Planning Council and the Boston Public Health Commission (BPHC) staff while they finalize their 2012-2015 Comprehensive Plan. This includes a review of the history of HIV/AIDS (national, state and local), a review of the current HIV services resource guides, and research and compilation of information for each of the four sections of the 2016-2019 Comprehensive Plan.

Methods: My practicum increased my knowledge of the administrative processes executed in order to provide resources for people living with HIV (PLWH). Working with BPHC taught me the importance of community involvement in public health decisions. This was relevant to the program because many discussions during class explore inclusion and outreach of potential stakeholders related to public health issues, but I gained perspective on how to put these theories into action. Lastly, I am creating a map that will include the locations of each organization that provides services for PLWH. This will be helpful for those who are seeking special services in their specific counties and for BPHC staff who can visualize gap areas of unmet need.

Results/Outcomes: I created materials that will be available online for use by PLWH who require assistance with housing, nutrition, case management, etc., until year 2019. I am extremely proud of this accomplishment because I have assisted the Boston HIV community by preparing information that will be used for their guidance over the next four years.

Name: Lea Wildermuth

Practicum Site: Constanza Medical Mission

Location: Weymouth, MA

Title: Evaluation of the Barriers and Facilitators to clean water projects in Constanza, DR

Introduction: International Health Initiative (IHI) is a young non-profit organization seeking to provide education and resources to under-served communities. Based in Boston, and directed by a small group of medical and public health professionals, IHI spent the past few years improving five main sectors of health in Constanza, Dominican Republic: Water and Sanitation, Chronic Disease, Sexual Health, Disability/Rehabilitation, and Surgery. During my involvement, I assisted the research team with the monitoring and evaluation of a Biosand Water Filter project, as well as collection and analysis of quantitative and qualitative data from Barrio Las Flores, a community within Constanza. The purpose of this practicum was to help with all water-related research and contribute all findings to a needs assessment for Barrio Las Flores.

Methods: Responsibilities included creating a 1) field questionnaire, 2) water sampling form, and 3) protocols for water sampling, surveying, and testing on the May 2015 trip. Additionally, for the January 2016 trip, I made adjustments to the aforementioned deliverables, helped interview 75+ homes, perform water sampling and testing, and both pre-trip and in-country logistical coordination and financial management.

Results/Outcomes: Summary of May and January trip findings and recommendations for the M & E of Biosand Water Filter usage in Constanza. Also, the development of a more standardized water questionnaire for January 2016 trip, and summary of questionnaire and water sampling findings to create recommendations for future water projects in Barrio Las Flores.

HEALTH LAW, BIOETHICS, & HUMAN RIGHTS

Name: Quinn Hirsch

Practicum Site: Alzheimer's Association

Location: Watertown, MA

Title: Health Policy & Advocacy Intern, MA/NH Chapter

Introduction: 120,000 individuals in Massachusetts live with Alzheimer's disease, and this is expected to increase by 25% by 2025. The Alzheimer's Association supports individuals, caregivers, and health professionals through the advancement of research, providing and enhancing support services, and promoting prevention. The Association's legislative agenda supports the goal of eliminating Alzheimer's disease, while pushing for more research funding and support for families. As the public policy intern, I worked directly with the Public Policy Manager to further the Association's interests in the Commonwealth and nation.

Methods: I attended and advocated at meetings at the State House and district offices in order to lobby for the passage of three state bills. I drafted communications to DPH officials, and assisted with the administration and logistics for the Federal and State Advocacy Days. In addition, I prepared materials for legislative meetings and events, including implementation of actionable items regarding the CDC's Healthy Brain Initiative.

Results/Outcomes: Three bills will be voted on at the end of the session in July. If passed, these bills will mandate that (1) physicians receive training in Alzheimer's and dementia as a required part of continuing medical education, (2) ensure that elder services workers are trained in detecting elder abuse and fraud in this vulnerable population, and (3) create an Alzheimer's office at EOHHS. The passage of these three bills, alongside progress regarding the HBI, would drastically improve policymakers and allied health professionals' ability to provide for the Alzheimer's community in Massachusetts.

Name: Cassandra Soucy

Practicum Site: Boston Public Health Commission

Location: Boston, MA

Title: Chronic Disease Prevention and Control Intern

Introduction: The Boston Public Health Commission's (BPHC) mission is to protect, preserve and promote the health and well-being of residents, particularly the most vulnerable. The Division of Chronic Disease Prevention and Control leads the activities promoting healthy eating and active living, two of the three most common and critical social determinants of health related to the development of chronic disease, through implementing policy, environmental and systems (PSE) improvement strategies.

Methods: Worked with BPHC leadership and staff to implement PSE strategies through two Centers for Disease Control and Prevention grants in key Boston neighborhoods addressing health disparities. Activities within these grants included generating and disseminating reports on the Healthy Community Champions project, conducting extensive literature reviews for chronic disease outcomes and interventions, collaborating on developing tool-kits for PSE interventions, co-leading committee meetings with BPHC staff and providing division support.

Results/Outcome: Community-based PSE strategies are critical to comprehensively addressing chronic disease outcomes. These establish structures for health organizations and communities that effectively improve health disparities in target neighborhoods. The work done will be beneficial to reducing rates of hypertension, obesity and cardiovascular disease disparities in Boston throughout the grant period and into the future. Reports and tool-kits demonstrate the success of implement PSE strategies in Boston as well as inform other regional public health departments around the United States about sustainable solutions.

HEALTH POLICY AND MANAGEMENT

Name: Courtney Anderson

Practicum Site: Dana Farber Cancer Institute

Location: Boston, MA

Title: Trial of a Bereavement Risk Screening Tool in an Oncological Setting

Introduction: Bereavement is a major stressor and has been found to have significant physical and mental health consequences. The literature on difficult bereavement suggests that early identification of at-risk individuals could facilitate early intervention. Currently at Dana-Farber Cancer Institute (DFCI), there is no standardized format for family members of deceased patients who may be at-risk of experiencing a difficult bereavement to be referred to the Institute's Bereavement Program. In order to address this problem, a screening tool has been developed to assist DFCI social workers to identify and refer at-risk family members to the Bereavement Program or to other appropriate services within the community.

Methods: The project focused on the trial and refinement of the screening tool using clinical improvement process techniques. A team of 6 Social Workers were recruited to participate in a pilot of the tool. First, a baseline survey of the team was conducted to assess clinical knowledge of bereavement. Within a two month period, Social Workers will complete the tool when they learn of a patient's death. The tool is then collected and analyzed to determine its effectiveness in assessing at-risk individuals. At the end of this trial, the team will hold a focus group to gather recommendations for improving the tool and prepare for clinical implementation.

Results/Outcomes: Preliminary data shows promise that the tool is effective in identifying at-risk individuals. Once refined, this tool will help identify at-risk bereaved family members of deceased patients at DFCI in a systematic way.

Name: Shaun Antonio

Practicum Site: University of Massachusetts Medical School

Location: Charlestown, MA

Title: Rescue-D Intern

Introduction: The team at the emergency planning and public health preparedness program at University of Massachusetts Medical School, EK Shriver Center, is working on a project to create an interactive educational system to aid first responders in the treatment and care of individuals with disabilities during disasters. The purpose of Rescue-D is to reduce some of the health disparities for individuals with disabilities, who have historically been a high-risk population during disaster scenarios, through education of first responders.

Methods: Specific projects include:

- Write a literature review over materials pertaining to disaster and disability, emergency and disability, emergency and chronic health condition, disaster and chronic health condition, access and functional needs, and whole community planning from the years of 2013-present
- Assist in the creation of different educational scenarios to be used to education responders about efficient and appropriate interactions with people with disabilities
- Advise and test Rescue-D as past EMT-B

Results/Outcome: Working with the professionals at the EK Shriver Center on an NIH funded project allowed me to expand my knowledge and experiences in the field of public health preparedness, online curriculum design, public health education, first responder training, health communication and health disparities. The literature review showed a slightly growing, but still a low level of disaster preparedness for peoples with disability, as well low competencies of first responders to the unique situations and challenges of aiding this population during disasters.

Name: Elizabeth Baez

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Project Manager/Research Assistant

Introduction: The purpose of the pilot: 1) reduce readmission on inpatient Hematology/Oncology Service, 2) Improve Palliative care access in hematology/oncology index admissions (gathered from Hematology/Oncology data on % Patients who died within 1 year of index admit.), 3) increase DNR/DNI status (1st readmission) as the result of earlier goals of care discussions by palliative care and hematology-oncology team, 4) increase End of life discussions on index admits, 5) increase Spiritual, Social work, case management, and Integrative medicine consults, 6) Reduce Cost of admission/readmissions, and 7) decrease Hospital Length of Stay.

Methods: Hematology/Oncology service physicians administer the Hematology/Oncology specific severity of illness tool (SOI) during morning rounds on every admission to the hematology/oncology inpatient service. The activities I completed include data collection from SOI and EPIC, data analysis, and identification of adjustments needed to proceed with pilot study. These activities were relevant to the analysis of the pilot.

Results/Outcomes: The projected outcomes: 1) Reduce readmissions by from baseline of 20% by 20% to a goal of equal to or less than a 16% readmission rate, 2) Improve Palliative care access in index admissions from baseline of 12% to 30%, 3) DNR/DNI status will increase from 21% at >50% (1st readmission), 4) End of life discussions on index admits will increase from 17% baseline to 30% of index admits, 5) Spiritual, Social work, case management, and Integrative medicine consults will increase by 15% from Baseline, 6) Reduce Cost of admission/readmissions by 3-5% for inpatient service, and 7) decrease H-LOS by 0.5 days.

HEALTH POLICY AND MANAGEMENT

Name: Joseph Capecci
Practicum Site: Seqirus
Location: Cambridge, MA
Title: Intern - Medical Clearance Committee: US Medical Communications

Introduction: Introduction: Seasonal influenza vaccines can help prevent widespread flu. This practicum involved management and support of the materials clearance committee (MCC) focusing on medical, legal, and regulatory review of promotional and scientific documents created. Additionally, support was provided the Medical Information team by gathering and analyzing data to spot trends in question type, asker, inquiry location, and inquiry by product. Further responsibilities included supporting the team in budget and contract negotiations for Medical Information Vendor. The responsibilities of the practicum grew to supporting the procurement team through project management on other engagements.

Methods: Project management facilitated cooperation and input from several different parties. Through MCC, Regulatory, Legal, and Medical representatives were involved in the review and tracking of documents Seqirus personnel. Documents included press releases, detail aids, and posters on the commercial side. Documents also included standard medical responses, frequently asked questions and scientific papers on the scientific side. Medical Information Inquiries Metric system helped gather data, analyze, and summarize for stakeholders. On both teams, active tracking of action items as well as participating in functional meetings and reporting data. Deliverables in procurement included budget and proposal summaries, as well as savings accrued to date.

Results/Outcome: The support provided over the past year contributed to brand growth for different products as well as a launch. Smooth, thorough operation of the committee prevented fines. Contributions to the Medical Information team helped improve efficiency of call centers and produce savings. Through the procurement experiences, support provided to the team as more savings were accrued.

Name: Fareesa Hasan
Practicum Site: Boston Children's Hospital
Location: Boston, MA
Title: Impact of Comorbid Conditions on Healthcare Resource Use for Children with Cerebral Palsy; Research Assistant

Introduction: This project at Boston Children's Hospital, involved analyzing costs and resource utilization for pediatric patients with cerebral palsy (CP). Patients with CP tend to have multiple comorbidities which incur high health care expenses. The goal of the study was to determine which chronic conditions affecting children with CP have the greatest impact on health care use and spending.

Methods: A retrospective cohort analysis was done on patients age 0-18 years with CP through Medicaid claims data from 10 states. The role involved organizing findings from the statistical analyses, and writing the manuscript for publication.

Results/Outcomes: Children with CP had a median 6 (IQR 4-10) chronic conditions. Total annual healthcare spending was \$610 million with a median \$10,697 (IQR 4,068-\$35,569) spend per patient. Using the Pareto waterfall ranking, examples of comorbidities with the largest impact on spending across the entire CP population were epilepsy [\$363 million (59.5%)], learning disorders [\$136 (22.3%)], and enterostomy (e.g., gastrostomy tube [\$31 million (5.1%)]). In linear regression, annual spending was \$1604 (95%CI \$1344-1867) on children with CP who did not endure any of the 20 top ranking, most-costly comorbidities. The comorbidities with the largest impact on individual children with CP were tracheostomy [median additional cost = \$59,736 (95%CI 52,289- 67,185)] and enterostomy [median additional cost = \$29,716 (95%CI 27,659-31,772)]. The next steps are to consider how these data can be used to inform and prepare parents of children with CP, and what policies can be implemented to alleviate the burden on parents.

Name: Meggie Hotard
Practicum Site: Biogen Idec
Location: Cambridge, MA
Title: Biogen Public Policy and Government Affairs Intern

Introduction: Biogen's Public Policy and Government Affairs office provides legislators and policy makers with both policy and political assistance on topics of importance to patients and the pharmaceutical industry. Topics of importance include drug reimbursement policies, intellectual property laws, and regulatory policies. As part of the Public Policy and Government Affairs team, I assisted with conducting research and analysis on key policy issues, such as the replacement of the Sustainable Growth Rate (SGR) for Medicare physician payment. I also conducted research to help assist the strategic plan for the Alzheimer's product, aducanumab, in Biogen's drug pipeline.

Methods: I worked directly with the Senior Director for Public Policy and Government Affairs. My responsibilities included organizing and conducting research for the preparation of an upcoming meeting with the Veterans Health Administration about Alzheimer's disease. Additional responsibilities included a report on Alzheimer's disease current quality measures and an unrelated, outside policy position paper about the replacement of the Sustainable Growth Rate and the potential impact on biotechnology products and the care of their patients.

Results/Projected Outcomes: Biogen's pipeline product, aducanumab, is at the very early stages of development. However, preliminary research about impact on potential policies and engagement with government agencies is important in early years of product development. I prepared a research report and formal presentation in front of senior staff and outside consultants on Veterans Health Administration's long-term care services for Alzheimer's disease, and their reimbursement policies for MRI and PET scans for Alzheimer's neuroimaging in clinical trials.

HEALTH POLICY AND MANAGEMENT

Name: Amira Khablein

Practicum Site: Veterans Affairs Boston Healthcare System

Location: Cambridge, MA

Title: Health Systems Administrative Trainee, VA Boston Healthcare System

Introduction: Veterans Affairs Boston Healthcare System (VABHS) is the primary tertiary referral site for veterans in New England, receiving patients from eight VA medical centers. Due to an increasing amount of patients needing services that are not available at their local VA medical center and increased scrutiny on VA due to recent bad publicity, reduction in long wait times and improved access to care are a priority for the organization. Re-admittance to the hospital is a rising problem for many inpatient departments, the Boston VA has identified in-patient mental health readmits to be an area of focus for quality improvement.

Methods: Medical records were reviewed retrospectively for FY2014; patients were selected based on a random number generator until 150 patients were sorted into a readmitted category and 150 in a non-readmitted category. From there demographic information was collected along with adherence to outpatient mental health appointments. This data will be analyzed to determine the effect of outpatient appointment adherence on being readmitted to inpatient psychiatry. If there is an effect then further studies can be conducted, as well practices to discourage missed outpatient opportunities will be immediately addressed.

Results/Projected Outcomes: If there is effect then further studies can be conducted, as well implementing practices to discourage missed outpatient opportunities. Next steps once data is available would also include identifying high-risk patients who can then be monitored more closely to ensure attendance to outpatient appointments following inpatient treatment, with an intended target of reducing the number of inpatient psychiatry readmissions.

Name: Brenna Lash

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Research Assistant

Introduction: As a research assistant to Dr. Calderwood in the department of gastroenterology at the Boston Medical Center, I have spent the majority of my time involved in research projects aimed to improve the efficacy and reduce the risks of colonoscopies for colon cancer screening and surveillance. I assisted in developing study materials, completing IRB applications, and recruiting patients to be involved in the study. Currently, we are working on two studies together.

Methods: I worked closely with the Principal Investigator, Dr. Calderwood, to develop an IRB application for the study, to develop a n informed consent form, to create surveys for online distribution, to recruit patients being screened for colon cancer to be included in the study, to follow up with patients after their colonoscopies, and to manage data in an excel spreadsheet.

Results/Outcomes: The projected outcomes for the studies are to enroll and collect data from a sufficient number of patients. This process is projected to take at least a year and will be completed after my time involved in the study is over. The studies I am involved in will be beneficial to improving the success rates of colonoscopies and in reducing the risks, such as bleeding, associated with the procedure.

Health Systems Administrative Trainee, VA Boston Healthcare System

Name: Melissa Manoj

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Resident VTE Assessments Project

Introduction: As one of the largest not-for-profit hospitals in New England, Boston Medical Center (BMC) has built and developed a standard of care that is recognized across the nation. In General Medicine and the Vascular Surgery Department, identifying early signs of deep vein thrombosis (DVT) is key in preventing serious health injury from blood clots. The QI Team at BMC recognized the inconsistencies in regards to DVT assessments conducted for incoming patients and the prophylaxes ordered. The objective of the project was to identify 1) if DVT Assessments are being conducted on all incoming patients, 2) are DVT Assessments being conducted before prophylaxes are ordered, and 3) whether the ordered prophylaxes ordered are appropriate for the given level of care based on the DVT Assessments.

Methods: Monthly meetings with physicians, residents, and data analysts were held to develop and refine an assessment tool used by practicum interns to extract data.. Data extracted from EPIC were compiled and analyzed to determine compliance within the three objectives.

Results: Of the 287 patients analyzed, consistently 15% of assessments were not being conducted before prophylaxes were ordered. 20% of the prophylaxes ordered were not appropriate for the risk score. Next Steps: Interventions to target, track, and improve the standings on the 3 quality measures are currently being determined. The project continues with data extraction and analysis and refining the DVT assessment tool.

HEALTH POLICY AND MANAGEMENT

Name: Himi Mathur

Practicum Site: Gel4Med

Location: Boston, MA

Title: Health Economist and Reimbursement Strategy Intern

Introduction: Gel4Med is an entrepreneurial venture working in the field of regenerative medicine for treating chronic and complex wounds. The company is trying to put a medical device in market which will cause uncomplicated wound closure. The device portrays a novel technology which is active against gram positive and negative bacteria without using biologics and antibiotics.

Methods: I joined Gel4Med as a health economist and reimbursement strategy intern. My work comprised of conducting primary and secondary research to understand wound care landscape. Primary research consisted of conducting survey and interviews with health care professional as well as hospitals and healthcare systems. Secondary research comprised of conducting a comprehensive literature review which not only validates primary research finding but also provides carried avenues to explore wound care market and opportunities. After understanding the current market needs and growth potential for future I was responsible to develop reimbursement and pricing strategy for Gel4Med's technology in accordance with Affordable Care Act.

Results/Outcomes: At the end of internship I was able to develop a comprehensive understanding of wound care industry. I created value proposition for Gel4Med technology. Reimbursement strategy was based on predicate products already available in the market. I concluded all my findings in a business report submitted to my supervisor.

Name: Hua Ni

Practicum Site: Veterans' Affairs Boston Health Care System

Location: West Roxbury, MA

Title: Director's Office Student Intern

Introduction: Veterans Affairs Boston Healthcare System (VABHS) has been committed to providing timely and high quality care for veterans. The embedding Teledermatology into Primary Care is a VABHS initiative which aims to provide more timely care by utilizing Telehealth to shorten veterans' long commute time to the VA facilities and share the burden from dermatology specialty care.

Methods: The project involved working as a project manager and cooperating with the Telehealth facility coordinator, physician team and telehealth technologists by using a few distinctive methods:

1. Needs assessment. Through observing current VA primary care flow and dermatology clinic procedure, patients' needs can be identified and matched with facility capability.
2. Case study. Using causeway primary care as a pilot study, we identify the benefits and challenges of embedding Teledermatology into the primary care by conducting data analysis, stakeholder interviews.
3. Measurements of Improvement. Identifying Teledermatology utilization, clinic wait time, travel cost and patient experience as measurements of improvement and further conduct PDSA.

Results/Outcomes: Data on utilization and wait time of Dermatology is obtained and analyzed; a current Primary Care and Dermatology process map within the VA facility is created; more than half of the primary care and specialty care physicians have received Telehealth training as well as the access to the software and hardware. The next step will be obtaining clinical buy-in and resources from leadership, identify facility space for Teledermatology, design training programs for Primary Care to understand how Teledermatology works and create service agreement among Primary Care, Dermatology and Telehealth services.

Name: Khushboo Parekh

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Resident VTE Assessments Project

Introduction: Located in Boston, ClinEdge is a full service business development (Network) and marketing (Engage) firm dedicated to the success of Clinical Trials. Clinical trials examine new ways to prevent, detect, or treat diseases aimed to increase the quality of life of those diagnosed. There are several challenges faced by research sites in the field of clinical research. As a Clinical Operations Project coordinator (COPC), my tasks involved working to build knowledge of the clinical research field, best practices in account management and business development in the clinical research field. The main responsibility was sponsor outreach to find new trial opportunities for Network sites and getting as many Network sites awarded trials as possible.

Methods: To overcome challenges faced at site level, the following processes are followed at ClinEdge; Network process – 1. Sponsor/CRO discuss study 2. Site Matching 3. Potential sites to Sponsor/CRO 4. Documentation Transfer 5. Communication with Sponsor/CRO and sites 6. Contracting 7. Recruitment,

Engage Process – 1. We receive study information and budget from site 2. Study-specific recruitment strategy developed 3. Campaign launched and tracked 4. Patient leads sent to sites 5. Marketing coordinators follow-up on each patient 6. Track progress of recruitment in real time 7. Final reports upon campaign completion.

Results/Outcomes: As a result of the services provided by ClinEdge and various processes undertaken by both its division, ClinEdge was successful in overcoming most of the challenges faced by sites in the field of Clinical research and trials. As a COPC, I assisted in the Network process to help sites get awarded trials.

HEALTH POLICY AND MANAGEMENT

Name: Janice Peters

Practicum Site: Massachusetts Hospital Association

Location: Burlington, MA

Title: Health Policy Intern

Introduction: Massachusetts Hospital Association is committed to serving the needs of their members through leadership in public advocacy, education, and information. MHA represents the collective interests of its members and supports their efforts to provide high quality, cost effective and accessible care. The purpose of my practicum was to assist the advocacy team in surveying hospital and physician operational and clinical practices to determine regulatory barriers to improving access to care. The span of projects entailed Gov. Baker's executive order No. 562, institutional sterile compounding (247 CMR 17.00), provider guidelines and best practices for substance use, and hospital reimbursement changes regarding section 603 off campus outpatient department of a provider.

Methods: The practicum involved analytical research of national best practices, attendance at Board of Registration in Pharmacy meetings, the collection of hospital member feedback for development of formal comments for public hearings, and assisting in the strategic planning associated with legislative meetings planned in Washington DC.

Results/Outcomes: To date, new regulations on institutional sterile compounding 247 CMR 17.00 are in executive office review and will be disseminated for public comment where we will submit official comments on behalf of our members at MHA. Provider guidance on substance use and prescribing will be published and established as MHA's stance on best practices related to the opioid epidemic. Finally, research and commentary on hospital off campus outpatient provider departments will be finalized and used in meetings with CMS and legislators on the hill in Washington DC.

Name: Gopakumar Radhakrishnan

Practicum Site: Seqirus

Location: Cambridge, MA

Title: Junior Project Manager

Introduction: Novartis Influenza Vaccines was acquired by CSL in July 2015 and, combined with the bioCSL vaccine division; the new company has been rebranded as "Seqirus" to form the world's second largest influenza vaccine business. The U.S. medical countermeasures and government affairs group focuses on enhancing the Nation's public health emergency preparedness, particularly with respect to pandemic influenza. The project involved developing Competitive Intelligence (CI) reports analyzing novel areas of business interest. The CI reports were used to help understand the current pandemic influenza market and the R&D pipeline for all influenza vaccines and antivirals.

Methods: Data for competitive intelligence was acquired from numerous sources such as Bloomberg.gov, clinicaltrials.gov, federal business opportunities, press releases, news articles, etc. The raw data was exported into an excel file and arranged to more effectively reflect the necessary information. Once data was collected and evaluated across multiple sources for accuracy and completeness, PowerPoint presentations were created that included critical analysis drawn from the data collected. Think-cell was used to develop graphical displays of the data.

Results/Outcomes: The competitive intelligence reports have provided insights on competitor contracts portfolio, market trends in the pandemic influenza vaccine and antiviral business. Weekly CI reports were used to update the team head on current advances in the pandemic influenza vaccines industry.

Name: Susana Ribeiro Arthur Gomes Almeida

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Resident VTE Assessments Project

Introduction: The social determinants of health are the social and economic conditions in which people are born, grow, work, live, and age. Massachusetts Public Health Association (MPHA) advocates for policy change that address social determinants of health in order to achieve health equity in the states. In order to achieve the necessary policy changes in Massachusetts the MPHA partners with diverse organizations, local leaders, and members. As to maintain and grow support MPHA has, a campaign was envisioned to educate stakeholders on social determinants of health (SDH) and how they relate to health equity.

Methods: A fact sheet series is being produced and a social media campaign was created. Housing, transportation and smart growth were selected as priority topics. Each fact sheet will contain a brief introduction to SDH, how the topic relates to health equity, why and how low-income individuals are disproportionately affected, and what are the policy implications. Simultaneously, a social media strategy for Facebook and Twitter is being established. Posts of articles, reports, events, and organizations are being created. They will include hashtags such as #HealthEquity and #SDoH.

Results: The goal is to inform the members and strategic MPHA partners (i.e., transportation and housing advocates, legislatures, developers, etc.) how SDH impact people's lives. The success of the campaign will be measured by tracking online involvement with Facebook and Twitter posts, as well as access volume to the fact sheet on MPHA's website.

HEALTH POLICY AND MANAGEMENT

Name: Chinar Singh
Practicum Site: Dana Farber Cancer Institute
Location: Boston, MA
Title: Protocol Registrar

Introduction: The Office of Data Quality at Dana- Farber Cancer Institute supports clinical research through data reviews, quality control, quality assurance, and process improvement programs. The practicum with Dana- Farber Cancer Institute provided experience as a liaison between the clinical trial research teams and the IRB ensuring that the data entered and amended is along the lines of the IRB regulations. This compliments my previous experience recruiting patients and improving strategies for recruitment in clinical trials at the Boston Medical Center.

Methods: I submitted protocol registrations and eligibility checklist amendments and provided back-up support for clinicaltrials.gov registrations. I managed the Subject Registration System to ensure that only eligible patients are registered to research protocols, and that the registrations are processed in an accurate and timely manner. I reviewed and performed quality control checks on subject registration packets including eligibility checklists and informed consent documents, resolving any discrepancies with research teams

Results/Projected Outcomes: The quality control and assessment led to risk management of the studies/ clinical trials. The office of Data Quality was able to better help the research teams to plan and prioritize risk. Also, the proactive approach with data was intended to detect issues and irregularities in data before they occurred (which is the goal of public health/ preventive medicine) leading to corrections and additions to conduct the trials ethically and indirectly ensure safety of the participants at the Dana-Farber/ Harvard Cancer Center consortium.

Name: Caroline Suminski
Practicum Site: Boston medical Center
Location: Boston, MA
Title: Clinic Flow Improvement Intern

Introduction: Boston Medical Center's General Internal Medicine department houses six primary care suites for adult patients. Over 50 providers and auxiliary staff members deliver comprehensive primary care services and offer specialized care for women's health, opioid addiction, and non-English speaking patients. The purpose of this practicum was to determine why patient satisfaction scores are among the lowest in the industry. The scope was to identify pain points in the patients' journey through the clinic, specifically during the check-in and check-out processes.

Methods: This practicum involved working with practice staff to: 1) create a project plan to test the hypothesis long wait times are a result of high volume and complex patient cases; 2) observe frontline employees during check-in/check-out process to collect timestamp data; 3) administer standardized survey to patient-facing employees; 4) build a spreadsheet to track data; 5) interview stakeholders and subject matter experts; 6) analyze data trends to provide recommendations for future pilot programs.

Results/Outcomes: Preliminary outcomes include: quantitative evidence to support the hypothesis; anecdotal testimonies from staff members; a database to track patient through-put time in the clinic; a list of recommendations designed to increase patient satisfaction; and an ideal-state process map. Wait times range from 3 minutes to 2 hours and 13 minutes. Projected outcomes include: increased patient satisfaction scores and improved check-in and check-out process.

Name: Steven Torchia
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: BMC NICU Reach Out and Read Program - Quality Improvement Intern

Introduction: Premature infants are exposed to less language in-utero and postnatally than term infants but language exposure is essential for normal language development. Infants who are hear more words during their hospital stay in the NICU have better neurodevelopmental outcomes at 18 months of age. Reading to infants is one way to increase language exposure. Parents who read to their infants in the NICU also experience less stress and are more likely to read to their infants post-discharge.

Methods: We conducted a retrospective chart review to determine demographic characteristics, primary language, baseline visitation patterns, and current reading activity for infants born at < 37 weeks who were admitted to the NICU during October and November, 2014 and who remained in the NICU for at least 7 days.

Results/Outcomes: 21 infants born before 37 weeks were admitted to the NICU from 10/1-11/30/2015. They had the following characteristics: 76% were male, mean GA was 33.3 \pm 2.5 weeks, and mean birth weight was 2034 \pm 572 grams; 62% were African American, 19% Hispanic, 10% white, and 10% other. Mothers visited the NICU a mean of 1.4 \pm 0.7 times/day and fathers visited 0.6 \pm 0.6 times/day over the course of their infants' hospitalization. 62% of mothers and 14% of fathers visited their infants in the NICU an average at least once per day. We have established baseline population data to inform our effort to increase reading in the NICU. The parents visit often enough to aim for 50% of infants being read to at least once per day by their parents

MATERNAL & CHILD HEALTH

Name: Mercedes Agyemfra

Practicum Site: Massachusetts Department of Public Health- Central Regional Health Office

Location: West Boylston, MA

Title: Oral Health Equity Project Intern

Introduction: The Massachusetts Oral Health Equity Project was proposed to address the Healthy People 2020 leading indicator for oral health: persons who visited the dentist in the past year. The project focuses on children up to age 14 in Worcester and Holyoke, cities with disparities in oral health access and outcomes, and large proportions of racial and ethnic minorities.

Methods: As a member of the Implementation Team and Community Engagement Team, I established strategies to apply a community participatory process to the project in order to increase the utilization of available oral health services and improve oral health outcomes for underserved pediatric populations in Massachusetts. Forum discussions were planned to be conducted throughout various communities in Worcester and Holyoke. Unfortunately, all early forum discussions were unsuccessful due to lack of registrations. From this, we realized that there was a lack of engagement within the community surrounding oral health. We decided on another approach in order to receive the necessary information from the community. Already existing community organizations were contacted to host forums and questions were made more specific to the place and time which would be allotted to the potential forums. It was decided that questionnaires would aid in gathering information from community members when a forum was impossible to be held.

Results/Outcomes: Due to the lack of community engagement it was necessary for us to develop a multi-prong approach to be used in the upcoming months of the project in order to acquire the necessary data given each unique community engagement event.

Name: Lola-Ade Akintobi

Practicum Site: Boston Area Rape Crisis Center

Location: Boston, MA

Title: Youth Prevention Services Intern

Introduction: Sexual violence is a vast public health problem that affects people of all demographics. However adolescents are disproportionately affected; it is estimated that approximately 44% of victims are under the age of 18. The Youth Leadership Corps (YLC) is a cohort of youth dedicated to sexual violence prevention at Boston Area Rape Crisis Center (BARCC). As the Youth Prevention Services Intern, I was responsible for co-facilitating the YLC meetings, creating trainings and materials, and leading social media strategic planning.

Methods: I conducted research on the intersection of sexual violence prevention and social justice. I used the information to create a Facilitator's Guide that will be available as a resource to the current YLC cohort and future cohorts. YLC trainings were not standardized and changed depending on the facilitator. Each training and workshop in the Facilitator's Guide has step-by-step-instructions. The Facilitator's Guide includes all of the resources needed for a successful year, including: icebreakers, social media strategy, trainings that are delivered to the YLC, and workshops that are delivered by the YLC to youth in the Greater Boston area.

Results/Outcomes: The Facilitator's Guide was distributed to the YLC and support staff. The 2015-2016 YLC will be able to use the resource during the remainder of the program. The Facilitator's Guide is a resource that standardizes all of the trainings. It will continue to be used with subsequent cohorts for the entirety of their service terms.

Name: Clark Jackson

Practicum Site: Illinois Department of Public Health

Location: Chicago, IL

Title: Title V Needs Assessment Action Plan, Office of Women's Health and Family Services, IDPH

Introduction: The objective of this project was to assist in the development of the 2015 Title V Action Plan for the Illinois Department of Public Health. I worked the Office of Women's Health and Family Services to further describe Title V priorities from the 2015 Needs Assessment in a health transformation context, and assist in the development of a systems-based approach for moving forward in the changing healthcare environment.

Methods: Secondary data on healthcare access, utilization, quality, and assessment related to the Title V priorities were identified and compiled in order to summarize health service metrics for each priority. Working with staff and external stakeholders, I generated health transformation-focused action plans for each of the identified priority areas. Using data on the health status of Illinois women, public health theory, and research on other successful health transformation programs from across the nation, I developed action plans that focused on closing gaps in health equity and reducing disparities, as well as reaching underserved populations.

Results/Outcomes: A final report outlining best practices and recommendations for supporting women's health and birth outcomes was created for the department. The action plans and final report will be used by the OWHFS staff in the development of the final Title V Action Plan to help guide program development, evaluation, and transformation over the next five years.

MATERNAL & CHILD HEALTH

Name: Sarah Jerome

Practicum Site: Education Development Center

Location: Waltham, MA

Title: Center for the Application of Prevention Technologies (CAPT) Research Assistant

Introduction: The National Culturally and Linguistically Appropriate Services (CLAS) Standards were developed as a means of addressing the ubiquitous health disparities encountered throughout the various health disciplines. The effectiveness of the CLAS standards in practice is determined by the method of implementation. The purpose of my practicum with the Education Development Center's Center for the Application of Prevention Technologies (CAPT) was to assess the effectiveness of methods of CLAS standards implementation across health agencies. This would aid in the CAPT's development of resources and training materials that would be provided to state- and local-level decision-makers on assessing and addressing health disparities in substance use as a means of meeting their respective health disparities impact goals and ultimately building state capacity for substance abuse prevention.

Methods: I completed an assessment of trainings administered by the CAPT on the CLAS standards and conducted a literature review on best implementation practices. Lastly, I analyzed the effects of the implementation of CLAS standards on health disparities as a whole.

Results/Outcomes: The class standards are divided into three categories: (1) Governance, Leadership, and Workforce; (2) Communication and Language Assistance; and (3) Engagement, Continuous Quality Improvement, and Accountability. The general pattern for implementation has been that most organizations adhere to CLAS standards thematically, incrementally fulfilling a few standards within one category at a time. I produced a document containing a compendium of recommended best practices based on literary evidence for the effective implementation of the National CLAS standards.

Name: Shari King

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Needs Assessment to Gauge Proficiency of Medical Professionals regarding Sudden Unexpected Infant and Child Death

Introduction: The Massachusetts Center for Sudden Infant Death is responsible for coordinating services to families whose children die of Sudden Unexpected Infant Death (SUID) and other causes of infant and child mortality (0 to 3 years). The Center has pursued its primary mission of ascertaining the cause of death in sudden infant and child mortality and offering support to family members during their bereavement. The goal of this practicum was to understand the opinions and needs of medical professionals regarding SUID resources in the state of MA and determine as a result, how the SID Center can meet those needs.

Methods: Activities included: 1) Conducting an analysis of the appropriate target population and acquiring contact information 2) Facilitating a large multi-disciplinary advisory board meeting for the Center with structured activities that gleaned resource and training needs of medical professionals 3) Presenting at BUMC Child Protection Team Rounds to a group of 40-50 ancillary medical professionals about SUID, needs of bereaved families and opportunities for partnership and training 4) Examining existing resources and working with Center staff to maximize outreach efforts.

Results/Outcomes: Results indicated that many professionals who interface with families upon the initial crisis of a child's death are seeking amplified support and training. Such professionals include EMTs, hospital social workers, emergency department personnel and DCF investigators. The MA Center for SID is well positioned to provide meet these aforementioned training needs and is currently employing outreach interventions targeted at these efforts.

Name: Debra McNeil

Practicum Site: Dana Farber Cancer Institute

Location: Boston, MA

Title: Healthcare Finance Intern

Introduction: In response to prescription drug coverage issues, a Prior Authorization pilot program was implemented at Dana Farber Cancer Institute (DFCI), resulting in one full time employee (FTE) working on Prior Authorizations (PAs) for four disease groups within Hematologic Malignancies. The program will be evaluated to determine the need for expansion via additional staff, and a workflow analysis of possible systemic improvements will be developed.

Methods: I began this evaluation by collecting information on the current PA program and three Celgene drugs that PAs are being issued for (Pomalyst, Revlimid, and Thalidomide). I then created a log to collect data on how much time was spent on various steps of the process. This data was used to create a workflow and illustrate weaknesses in the system. At the end of the two-month data collection, I prepared a report for the department stating my findings and recommendations.

Results/Outcomes: The data shows that an average of 4 hours per week were spent on Prior Authorization refills by interns, with the time increasing each week to 6 hours at conclusion. I recommend hiring an intern specifically to assist the FTE with PAs, to take over for the several other alternating employees that give short term help when available, as is currently practiced. A barrier to timely refills is prescription change verifications, which have to be done through EPIC; a system not all staff members are trained on. Centralizing the project and providing consistent training will allow for facilitated expansion of the current system.

MATERNAL & CHILD HEALTH

Name: Valerie Quaye
Practicum Site: Boston Public Health Commission
Location: Boston, MA
Title: Student Intern

Introduction: Parents of infants born preterm may experience great distress in providing care to their infants in the NICU. Kangaroo mother care (KMC) is a highly beneficial method of care for both infants and parents. KMC creates a bond between the infant and parent, while improving the infant's health.

Methods: An extensive search on KMC was conducted to find out its benefits especially for preterm infants. In addition to this, I attended the baby café at Codman Square Health Center biweekly. The meeting consisted of 1.5 hours of mothers and infants as well as two lactation consultants sharing experiences during breastfeeding. I developed a survey with the help of my supervisor to seek out parents' knowledge and perception of KMC and skin-to-skin contact.

Results/Outcomes: The search revealed that hospitals in the United States do not have a standard procedure for KMC. In researching hospitals within the Greater Boston area, many hospitals do practice KMC or skin to skin contact and do have online resources while some hospitals do not have accessible information. Based on the survey responses, many mothers are aware of skin to skin contact however 27% of the respondents knew about KMC and its benefits. Recommendations are needed for hospitals to have a protocol to implement this type of care, especially in NICUS that are highly equipped to care for preterm infants. There is also a greater need to inform parents of this type of care and empower them to discuss this option with their birthing team.

Name: Natalie Rock
Practicum Site: Boston University School of Public Health
Location: Boston, MA
Title: Program Development Assistant/Faculty Assistant

Introduction: Incoming BUSPH degree candidates will acquire both functional skills and multi-disciplinary knowledge for designing and implementing public health initiatives which promote healthy behaviors and change social norms. Specifically, the curriculum for the Health Communications Certificate (HCC) will allow students to develop qualitative research skills, intervention/campaign development, risk communication, media advocacy, and effective use of communication technology. To facilitate this development, program considerations and resources were generated for new candidates.

Methods: To reinforce students' knowledge and to prepare them for entry into the health communications field, the HCC will supplement its curriculum with various resources, networking events, specialist seminars, and workshops outside of the classroom setting. Significant activities which supported this development included, but were not limited to, design of the conceptual framework for the HCC graduation requirements and thesis projects, identification of potential workshops, planning of future seminars/ events with Career Services, and development of an online health communication toolkit.

Results/Outcomes: The creation, organization, and coordination of these extracurricular activities will be made available through an online Health Communications Dashboard and Toolkit (HCDT). The HCDT will act as a centralized location for incoming HCC candidates to learn about program requirements, seek career advice, and foster personal development as a public health practitioner.

Name: Dayana Sanchez
Practicum Site: Health Care for All
Location: Boston, MA
Title: Public Health Fellow

Introduction: In 2008, Massachusetts law mandated every hospital to form Patient and Family Advisory Councils (PFACs). PFACs consist of both patient/family members and hospital staff to introduce the patient voice into hospital care/procedures, yet PFACs are struggling with true family and community engagement. As a public health fellow on a PFAC team at Health Care For All (HCFA), we sought to guide PFACs towards patient-centered procedures and goals. The objective of this practicum was to help streamline communication between PFACs and HCFA, and contribute to the content and future direction of patient-centered PFAC work in the state.

Methods: In order to influence PFACs towards meaningful patient engagement, we sought to: 1) define what patient engagement means in different areas of PFAC work and establish a framework, 2) determine content and process areas needed for more PFAC engagement, 3) define and address problems in achieving patient engagement, and 4) establish PFAC agenda for actionable, significant, and achievable changes. To accomplish these objectives, subcommittees and the annual PFAC conference were utilized as a means to change the dialogue around PFAC work.

Results/Outcomes: Conference agenda/content was modified in response to PFAC needs and to standardize the meaning and framework of patient engagement in healthcare, and will serve as an educational forum for all members. Subcommittee members began to define obstacles in topic areas (eg. research, best practices) and outline yearly goals to address these issues. The end goal is to have PFACs become more involved in their respective institutions and reflect the varying voices of their communities.

MATERNAL & CHILD HEALTH

Name: Samantha Shrager
Practicum Site: Boston Public Health Commission
Location: Boston, MA
Title: Inclusion Partners Project Graduate Intern

Introduction: Inclusion Partners Program (IPP) is a disability awareness program that recruits Boston high school students to participate in a 10-week disability awareness course. After completion of the course, students participate in an 8-week internship where they gain hands on experience mentoring and supporting children with special healthcare needs. The program culminates in a Health Careers Expo where IPP students network with local professionals in the disability field.

Methods: Activities include: 1) Supervision of youth at their internship sites 2) Development of tools for tracking and documenting feedback sessions 3) Facilitating professionalism workshop 4) Facilitating feedback sessions with students and internship partners 5) Coordinating logistics for Student Showcase and Career Expo events

Results/Outcomes: Upon completion of IPP, students learn strategies for working with children with various physical and mental disabilities, engage in conversations around empathy and advocacy, and build valuable leadership skills. This summer, IPP is offering a similar program that will include participants who identify as having a disability. The goal is to further expand the Commission's commitment to inclusion, and to better address the programming needs of families with children with special healthcare needs.

Name: Grace Thole
Practicum Site: Massachusetts Center for Sudden Infant Death Syndrome
Location: Boston, MA
Title: Improving Outreach to Bereaved Families: Development and implementation of a website for Sudden Unexpected Infant Death

Introduction: The Massachusetts Center for Unexpected Infant and Child Death is responsible for coordinating bereavement services for all families in Massachusetts who suffer the unexpected death of an infant or young child. The Center is primarily funded by the Massachusetts Department of Public Health. It has been responsible for connecting parents to bereavement counselors and organizing trainings for healthcare professionals since 1975. The purpose of this practicum is to assist the program in rebranding their image and extending their services to more families by implementing a new website.

Methods: Preliminary activities included hosting an advisory board meeting consisting of experts in infant death, bereavement counselors, and parents who have suffered a child loss. A plan for an updated website was drafted based on advisory board feedback. A comprehensive literature review was performed for current research on Sudden Unexpected Infant Death and grief support. A website platform was established and content was created to provide inclusive information and resources for those affected by a child death.

Results/Outcomes: An updated and comprehensive website was launched using the SquareSpace website developer. The Center was provided with training on sustaining the website and utilizing the improved data metrics.

Name: Aijia Wang
Practicum Site: Massachusetts Department of Public Health
Location: Boston, MA
Title: Intern

Introduction: The cause of Intrauterine Growth Restriction (IUGR) is still poorly understood. Many studies have examined the joint effect of psychological stress and environment during pregnancy, recognizing the multidimensional cause of IUGR. Most studies however, have failed to delineate the interplay between the two factors or the mechanisms under investigation. This project reevaluated existing evidence and investigated various models of the relationship between stress, environment and IUGR.

Methods: I conducted a literature review on the association between psychological stress, environmental factors and IUGR. Based on existing theories, I combined evidence from both areas and proposed four possible mechanisms of relationships: 1) Stress and environment are independent risks of IUGR; 2) Stress is a mediator between environment and IUGR; 3) Environment is a modifier of the association between stress and IUGR; 4) The association between stress and IUGR is mediated by negative stress-coping behaviors, and environment modifies the effect of these behaviors. Using data from the MA Pregnancy Risk Assessment and Monitoring System, Birth Certificates, and the U.S. Census, I tested each of the four models.

Results/Outcomes: Model 4 has demonstrated significant associations. Pregnant women who experienced psychological stress were more likely to adopt coping mechanisms, such as smoking and drinking. These behaviors were associated with an increased risk of IUGR. Environment modified the effect of smoking and drinking. Women who reside in more advantaged neighborhoods in MA were more likely to engage in such behaviors, compared to women who reside in the least advantaged neighborhood; even after controlling for education.

MATERNAL & CHILD HEALTH

Name: Isabelle Wiles

Practicum Site: Massachusetts General Hospital

Location: Revere, MA

Title: Health Education Intern

Introduction: The Stay in Shape program is an intervention for combating childhood obesity run through CHA in public schools in Revere, Chelsea, and Charlestown. Program participants learn knowledge and skills of nutrition, exercise, and stress management for living a healthy lifestyle and preventing disease. The purpose of this practicum was to assist in developing a mobile health/wellness app to serve as an integrative intervention tool for the Stay in Shape program. The goal of the app is to provide additional resources for Stay in Shape participants/past participants outside the classroom to continue to use the skills learned during the program to live a healthy lifestyle. The app also will reach parents/families of program participants by spreading education through interactions with the app.

Methods: I worked with the program director to: 1.) Conduct a needs assessment for ideas of functions to include in the app. 2.) Research, Contact, and vet potential outside partners to build the app. 3.) Develop an implementation plan for app launch. 4.) Develop an evaluation method for post app launch and future data collection/evaluation.

Results/Outcomes: The Stay in Shape app will help to support the existing program curriculum by providing tools to reiterate knowledge and skills built during the program for participants. The app will also provide CHA with future evaluation and data collection tools and a way in which to engage with families/parents of program participants.

Name: Francisca Williams-Oni

Practicum Site: NARAL Pro-Choice Massachusetts

Location: Boston, MA

Title: Political Intern

Introduction: NARAL Pro-Choice Massachusetts is dedicated to using the political process to ensure women are able to make informed decisions regarding the full range of services pertaining their reproductive health. Crisis Pregnancy Centers (CPCs) are unlicensed clinics directed by anti-choice organizations that advertise themselves as “educating and empowering women to make healthy life-affirming decisions regarding their unplanned pregnancies.”

Methods: During this practicum I conducted a website analysis of CPCs to catalogue inaccurate information promoted as factual. I analyzed their distance to colleges and prevalence in low income neighborhoods to ascertain their target population. I helped train investigators to visit CPCs to learn about tactics firsthand and detail their experience.

Results/Outcomes: We found that CPCs specifically target college students through their websites and are highly concentrated in college and low income areas respectively. We speculate they are targeting these populations because they may lack health insurance or support systems. We discovered CPCs provide medically inaccurate information linking abortion to breast cancer and exaggerated mortality and morbidity rates to dissuade women from abortion. Women reported feeling coerced and manipulated not to choose abortion. With these findings, NARAL Pro-Choice Massachusetts will propose legislation requiring government funded establishments to provide medically accurate information about reproductive services so that women can freely make an informed decision about their pregnancy.

SOCIAL AND BEHAVIORAL SCIENCES

Name: Nalani Brown
Practicum Site: Boston Center for Youth & Families
Location: Roslindale, MA
Title: BU Intern

Introduction: The Menino (Archdale) Community Center offers sports, homework assistance, afterschool programs, and preschool for youth. Staff members recognize that adolescence is a time for social and emotional development and this is reflected in the Center's programming and scope of work. An area of particular importance is encouragement for healthy relationship development. The purpose of this practicum was to contribute to six major components that develop and encourage healthy relationships: communication, emotional control, behavior, behavioral awareness, confidence, and empathy.

Methods: Activities included: 1) observational learning and literature review about existing adolescent behavior and healthy relationship development activities; 2) collaboration with Center staff to develop specific activities for youth (age: 13-18) that address each of the major components of healthy relationships; 3) contribute to Center efforts that promote communication skills to reduce bullying among youth engaged in programs; and 4) conduct post program evaluations that include process and outcome measures.

Results/Outcomes: At the conclusion of the practicum, the evaluation results for each activity will be evaluated, reviewed, and presented to the Center's staff. If demonstrated effective, the Center may potentially incorporate and continue activities within their current programming.

Name: Eden Brownell
Practicum Site: Health Care for All
Location: Boston, MA
Title: Fellow, Consumer Engagement

Introduction: Health Care For All is a Massachusetts nonprofit advocacy organization working to create a better health care system that provides comprehensive, affordable and accessible care to everyone, especially the most vulnerable among us. Health Care For All takes a unique approach, leveraging direct service, policy development, coalition building, community organizing, public education and outreach to achieve its mission.

Methods: I am working directly with the community organizing team. Responsibilities include conducting research on constituent engagement best practices to form a new engagement plan, creating a plan for Salesforce implementation, running the organizations online community network and researching best practices for Patient and Family Advisory Councils.

Results/Outcomes: In order for Health Care For All to move forward on policy initiatives, consumers must be organized into coalitions that will help to address the concerns of these individuals. Similarly, once these individuals are connected to the organization, it is essential to have these constituents organized in a meaningful way. At the conclusion of this fellowship, there will be: 1) A new engagement plan developed for the organization; 2) A salesforce platform specific to the needs of Health Care For All in order to manage and organize constituent data meaningfully; 3) An online network for both Patient and Family Advisory Committees and various levels of constituents; 4) A website resource for Patient and Family Advisory Councils throughout Massachusetts.

Name: Angela Colletta
Practicum Site: Johnson Compounding and Wellness Center
Location: Waltham, MA
Title: Research Assistant for Mixing Validation Project

Introduction: Patient safety, access to medication, and continuity of care are at the forefront of health policy and innovative pharmaceutical research. Compounding is an important therapeutic alternative for patients for whom manufactured drugs do not suffice. Johnson Compounding and Wellness provides high-quality compounded drugs, tailored to meet the unique needs of individual patients. The purpose of this project was to validate mixing processes using an anhydrous liquid aliquot as a drug vehicle for hormone restoration therapy (HRT) creams in conjunction with procedural improvements in order to attain increased quality and access to prescription medications and to reduce costs incurred by the pharmacy throughout the compounding process

Methods: A review of solubility studies and procedural practices for compounding HRT in a variety of bases was conducted. After identifying potential anhydrous solvents, a database was developed to establish baseline solubility data based on current practices. Hormones were mixed in anhydrous solvent candidates to determine optimal solvents. Process validation was used to identify ideal concentrations and procedural processes over time

Results/Outcomes: Preliminary data analyses revealed that grape seed oil and benzyl alcohol were not optimal anhydrous solvents to achieve desired concentrations of Progesterone or DHEA. Using emulsifying wax and ethoxydiglycol as a vehicle, a desired concentration of 100mg/mL for DHEA was attained. However, process validation showed that manipulation of the wax was less efficient than current practices. Future research should explore the use of alternative anhydrous solvents in an effort to address issues of quality, cost, and access to HRT.

SOCIAL AND BEHAVIORAL SCIENCES

Name: Claudia Gumia Avendano
Practicum Site: Brookline Department of Public Health
Location: Brookline, MA
Title: Community Health Intern

Introduction: The Brookline Department of Public Health, Division of Community Health develops many health promotion programs to help residents achieve and maintain physical and mental wellbeing. The purpose of this practicum was to assist in the organization and coordination of existing programs and the design of new initiatives.

Methods: Activities included: 1) coordinate the Car-Free School Day and National Food Day; 2) research and integrate current health promotion trends in order to update past initiatives; 3) seek new venues; 4) identify relevant stakeholders; and 5) create and distribute communication and promotional materials to potential program participants.

Results/Outcomes: Several events were successfully implemented: 1) community-wide Flu Clinics during 2015 which resulted in a reduction of flu episodes during the 2016 season; 2) National Food Day, in which Brookline residents collected fresh food donations for the food pantry; and 3) Walk a Mile in her Shoes, which raised awareness about gender-specific violence. A dental health clinic was also implemented with minimal success leading to the evaluation and redevelopment of the program.

Name: Gregory Jew
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Research Assistant

Introduction: The Boston High Risk Asthma Program Pathway in Youth (BHAPPY) is a joint project between Boston Medical Center (BMC), Boston Public Health Commission (BPHC), and Boston University School of Public Health (BUSPH). The overarching goal of this program is to help reduce the asthma disease burden of minority preschoolers (age 0 - 5) in Boston. Specifically this will be accomplished by conducting needs assessments and engaging community stakeholders in designing an asthma pathway.

Methods: Practicum activities included: 1) conduct an extensive review of the literature regarding evidence based quality improvement interventions for asthma care to identify potential interventions to incorporate into the pathway; 2) conduct focus groups with providers, parents, daycares (eg Headstart), and community health workers (CHWs); 3) transcribe qualitative data and code using Nvivo to identify which evidence-based interventions would best serve the community.

Results/Outcomes: BHAPPY intends to use information collected from the literature review and focus groups to design an intervention pathway and apply for additional grants to implement and study clinical effectiveness and implementation of the intervention.

Name: Ashley Mayo
Practicum Site: Boston University Fitness and Wellness Center at Blackstone
Location: Boston, MA
Title: Practicum Proposal: Evaluating the BU Impact at Blackstone Community Center

Introduction: For the past four years, Boston University (BU) and BCYF Blackstone Community Center have partnered to create the Boston University Fitness and Wellness Center (BU FitWell). BU FitWell was created to provide underprivileged residents in the South End access to an affordable fitness center. Over the years, BU has launched other initiatives through BU Fitness and Recreation Center, Sargent College, and the School of Public Health (SPH) to provide health and wellness education. The purpose of this practicum is to evaluate the implementation and impact of these various BU initiatives with the Blackstone Community Center.

Methods: Partnership evaluation activities included: 1) develop written descriptions of each of the services offered; 2) analyzed existing quantitative data to ascertain FitWell membership and utilization rates; 3) conducted 4 key informant interviews with BU stakeholders in the partnership and 2 focus groups with FitWell gym members to obtain qualitative data regarding member satisfaction of services; 4) prepared a qualitative report that describes several issues identified by current stakeholders that may influence future success of the BU/Blackstone Community Center collaboration.

Results/Outcomes: This report can augment other assessment and evaluations that examine the university's partnership with BCYF and its positive impact on the lives of over a thousand Boston residents through programs sponsored by Sargent College, SPH, and FitRec. In addition, it highlights the impact this program has on the students who facilitate and lead within the organizational setting. Future evaluations are needed to assess program impacts and potential for organizational sustainability.

SOCIAL AND BEHAVIORAL SCIENCES

Name: Helen McDermott
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Targeting Effective Analgesia in Clinics for HIV (TEACH) Study

Introduction: The BMC CARE Unit conducts research dedicated to improving the lives of people with unhealthy drug use by educating health professionals and informing public health practice. The TEACH study is designed to test the effectiveness of a collaborative care intervention directed towards physicians to improve the management of chronic opioid therapy (COT) and reduce the misuse of prescription opioids among HIV-infected patients. There are two distinct components of the TEACH study: the physician intervention component that involves consenting physicians with patients on COT into a randomized controlled trial, and the patient assessment component that involves consenting patients in the HIV clinic on COT to participate in an observational study. The purpose of this practicum was to assist with implementation of the TEACH study.

Methods: A study protocol was created for each TEACH component that included research assistant manuals, scripts, timelines, process maps and data collection forms. Further activities included study IRB amendments and progress reports throughout study development, a research assistant training plan, and continued support to principal investigators and project coordinators.

Results/Outcomes: Protocols improve scientific rigor by clearly outlining study objectives and methods. Since the TEACH study is a multi-site study being conducted at BMC and Grady Memorial Hospital at Emory University, a formal protocol was especially important. The creation of the protocol facilitated successful and consistent implementation of the TEACH study at each site. The research assistant manual and training plan allowed the study team to systematically orientate new staff to the project, greatly improving work flow.

Name: Revathi Penumatsa
Practicum Site: Boston Area Rape Crisis Center
Location: Cambridge, MA
Title: Hotline Intern

Introduction: The Boston Area Rape Crisis Center (BARCC) is a national leader in providing comprehensive, confidential and free services to survivors of sexual violence including a 24 hour hotline, medical and legal advocacy as well as counseling. BARCC aims to end sexual violence through training and partnerships with the community and organizations. The aim of this practicum was to streamline internal organization processes to enhance services.

Methods: 1) analysis of client caller information to detect inappropriate or frequent callers so as to optimize resources; 2) update of BARCC resource manual; 3) support provided to improve administrative functions such as scheduling hotline shifts; 4) group interviews conducted to get information on how to better structure volunteer training; and 4) conducted and analyzed a staff/volunteer survey to improve supervision and communication.

Results/Outcomes: The resource manual was updated, aberrant call patterns were identified and individuals who call more than 10 times a month were flagged to provide appropriate clinical support and optimize resource utilization. Qualitative feedback was provided to Center leadership and will help to better structure peer supervision meetings based on the needs of the volunteers. A report generated from the survey describes how volunteers perceive the communication and supervision strategies at BARCC.

Name: Kimberly Ross
Practicum Site: Brigham and Women's Hospital
Location: Boston, MA
Title: Research Assistant, Plastic Surgery at Brigham and Women's Hospital

Introduction: Medical tourism in plastic surgery is a trend that relates to patients living in developed countries who travel to less-developed countries for lower cost cosmetic surgeries. Improvements in quality and cost of the global transportation infrastructure have fueled this multi-billion dollar medical tourism industry. Little is known about patient volume, demographics, and complications of this patient population but for doctors in the US, it can be a frustrating problem. The purpose of this practicum was to assist in a study that seeks to better understand this patient population, their motivations and the complications they present to their local caregivers

Methods: Activities included working with the Principal Investigator to: 1.) complete IRB application through Harvard Medical School; 2.) perform literature review on medical tourism in cosmetic surgery; 3.) use research database to locate patients who fit criteria for inclusion; 4.) perform medical record review; 5.) develop methods to track and analyze data; 6.) prepare manuscript for publication in scientific journal.

Results/Outcomes: Patients returning following plastic surgery procedures performed abroad present challenges to their local care team and rely on both publically and privately funded health insurance plans to provide coverage of their follow up care. The main motivator for patients is likely financial and it is unlikely that patients realize their risks and the financial implications. Better communication of risks and dangers of medical tourism in cosmetic surgery is needed.

SOCIAL AND BEHAVIORAL SCIENCES

Name: Gabriela Velasquez

Practicum Site: Boston University School of Public Health

Location: Boston, MA

Title: Real Talk: Implementation of Spanish Edition of This Brief Motivational Interview Style Intervention for Teen Dating Violence Perpetration

Introduction: Real Talk, a randomized control trial, employs a brief motivational interview intervention aimed to reduce teen dating violence perpetration in Boston. The study has been approved by the Institutional Review Board of Boston Medical Center, and patients are recruited from both the Pediatric Emergency, and the Adolescent Clinic within the Department of Pediatrics. Currently, Real Talk has only been implemented in English, though a large segment of the patient population at Boston Medical Center are Spanish-speaking. The primary purpose of this practicum was to translate research materials and consent forms into Spanish.

Methods: Using the original forms as a template, I translated the parental consent, participant assent, and the Real Talk training manual from English into Spanish. Additionally, my duties as an interventionist continued throughout the practicum and included: screening, enrolling, and conducting the randomization and intervention on the adolescent patients.

Results/Outcomes: The translated forms will subsequently be cross-checked by a third party for accuracy and sent to the Institutional Review Board at Boston University for final approval. Once the translated forms are approved, Real Talk will then be implemented in Spanish by Spanish-speaking study interventionists