

Boston University School of Public Health

Student Practicum Abstracts

Summer 2016

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BIostatISTICS

Name: Allo, Betsy

Practicum Site: MA Department of Public Health- Bureau of Healthcare Safety and Quality

Location: Boston, MA

Title: Graduate Intern

Introduction: In 2013, unintentional injuries were the fourth leading cause of all deaths in the US with 47% of elderly fatalities directly resulting from falls, often occurring in long-term care facilities (LTCFs). Studies show more than 84% of adverse events in the healthcare setting are associated with fall incidents, increasing time spend in hospitals and the economic burden.

Methods: My role was to use the Health Care Facility Reporting System (HCFRS) to perform a secondary descriptive analysis. I began with a systematic literature review, inclusion/exclusion criteria and data cleaning of a sample of report narratives. Data were analyzed using SAS 9.3.

Results/Outcomes: In this study, 19,497 fall incidences from all LTCFs in MA were reported between 01/01/2011 to 04/30/2016. Main factors in LTCF's that influence the occurrence of falls for residents were sex, age, history of falls and length of stay since admissions. Due to limitations of the study, death data was unable to be accessed. Massachusetts has improved surveillance by up to 87.2% in some variables since 2011 and data suggests a decreasing trend in both falls and fatalities instead. Because residents most fell in their rooms, it suggests that elderly individuals should be checked on more regularly when left alone, especially if they have a known history of falls.

Name: Baul, Tithi

Practicum Site: Boston University School of Medicine

Location: Boston, MA

Title: Graduate Intern

Introduction: Schizophrenia is a debilitating neurodevelopmental disorder affecting approximately 70 million people globally. In developing countries, the prevalence of schizophrenia varies among certain subsets of population due to the severity of the illness, gender, and cultural norms. Investigators found that in Butajira, Ethiopia the prevalence of schizophrenia was higher among males than females with a male to female with schizophrenia ratio of 5.1. This study aims to elucidate community members' cultural explanatory models regarding schizophrenia and how it impacts diagnosing women with this illness.

Methods: Data Collection: Thirty-nine in-depth interviews from patients and various community members were coded thematically in NVivo. Three coders established a codebook based on the first six interviews, then each coder individually coded eleven interviews. To compare reliability among the different coders, an inter-code reliability test was conducted and confirmed there was an agreement of 80% in the initial open coding analysis. Coders used initial codes to create axial coding where different themes were connected to explain the complexity of diagnosing schizophrenia among women.

Results/Outcomes: Interview respondents reported interplay between access to modern medicine, severity of symptoms, marriageability, rape and many more adversities related to females as potential barriers in detecting women with schizophrenia. Analysis of these transcripts show that mentally ill women are often physically restrained at home to prevent them from being sexually assaulted and/or raped outside. Women also exhibit less severe symptoms than men at early stages of the illness such as physical aggression or nudity, which prevent community members from detecting women with schizophrenia.

Name: Campbell, Cordie

Practicum Site: Boston University School of Public Health

Location: Boston, MA

Title: Research Assistant

Introduction: The objective of this practicum was to learn how to provide quality data in study projects. As a research assistant, I worked with a team of statistical data managers and statistical programmers on multiple projects which were contracted to the Data Coordinating Center (DCC). The DCC is a facility housed at the Boston University School of Public Health, and it supports investigators in activities related to startup and data management of the investigators' studies.

Methods: I verified that information on data collection forms for the Narcan Program were correct using TeleForm software. I harmonized brain injury data by matching variables in various UNITE study datasets to variables used in the FITBIR database. I assisted in writing a SAS program with formatted variables from various studies. I also wrote a program to create HTML reports for the ADOPT project. Finally, I created a data dictionary for the Children's Health Study on prenatal exposure to PCE.

Results/Outcomes: Verification of data collection forms ensures data accuracy. By harmonizing data and formatting variables, I aided the DCC in uploading research into the FITBIR database. Uploaded data in the FITBIR database will help the government decide whether it will continue to provide federal funding for brain injury research. The program creating HTML reports allows study investigators to pull participant information in real-time and view it online. I used the data dictionary to read in and test the quality of the first batch of live-data from the Children's Health Study questionnaires.

BIostatISTICS

Name: de Groot, Alexander

Practicum Site: Boston University School of Public Health (BUSPH)

Location: Boston, MA

Title: Research Assistant

Introduction: While up to 50% of infertility is attributable to male factors, most research to date has focused on female factors. The Snart Foraeldre (SF) study is a Danish web-based preconception cohort study evaluating the impact of lifestyle, medical, and dietary exposures on male and female infertility. 364 male partners have been enrolled in the SF study, with ongoing enrollment and regularly scheduled follow-up. The purpose of this practicum was to explore correlates of infertility history reported by the male partner at baseline.

Methods: Analyses were performed to assess potential correlates of infertility history, defined as trying for one year or more to become pregnant with a sexual partner without her becoming pregnant during that time. Log-binomial regression models were used to estimate prevalence ratios (PR) and 95% confidence intervals (CI), which were adjusted for age and for the participant's BMI when he was 17 years old.

Results/Outcomes: 53 (14.6%) men reported a history of infertility, of which 8 (15.1%) reported male factor as the identified cause. The strongest correlates of infertility history were a history of high blood pressure (PR: 3.29, 95% CI: 1.60 – 6.79) and a history of mood disorders (PR: 2.33, 95% CI: 1.34 – 4.07). Due to the cross-sectional nature of the analysis, we cannot rule out the possibility that the infertility was a cause of these correlates (e.g. depression). Moreover, only a subset of men reported a history of male factor infertility; thus, the extent to which these correlates are associated with male factor infertility is unclear.

Name: Dillon, Caitlin

Practicum Site: Concord Board of Health

Location: Concord, MA

Title: Public Health Intern

Introduction: The Concord Council on Aging (COA) hosts weekly blood pressure screenings for Concord senior citizens. Blood pressure records were transcribed into an Excel dataset and analyzed in an effort to characterize Concord's senior citizens' medical needs for funding requests and resource allocation.

Methods: Between January 1, 2014 and December 31, 2015 data were collected from 112 Concord seniors attending any of the 89 blood pressure screenings. The data were recorded as a simple yes or no flag if the attendee had any of the targeted medical concerns, regardless of number of occurrences throughout the two year period. Analyses on these concerns included frequencies, chi-square tests of independence, and logistic regression analyses, and were conducted using the R statistical software.

Results/Outcomes: Blood pressure clinic attendees were 66% female and 60% were greater than 80 years old. The majority attended at minimum one clinic every 6 months (~55%). On average, increasing number of attended clinics was significantly associated with greater frequency of medical concerns including increased falls, pain, psychosocial concerns and changes in blood pressure. These results provide the COA and the Concord Health Department with the impact of these blood pressure clinics. Although initial interpretation suggests that frequent visitors have a higher likelihood of having their concerns captured, an alternative interpretation is that frequent visitors may actually experience greater health concerns. Therefore, COA staff and volunteers should allocate more time and resources to those who attend clinics frequently as they may be in need of more assistance.

Name: Fleishman, Aaron

Practicum Site: Beth Israel Deaconess Medical Center

Location: Boston, MA

Title: Examining Health Utility After Weight Loss Surgery

Introduction: Over one-third of US adults are obese (BMI ≥ 30 kg/m²). Obesity has substantial physical, social and economic consequences that may affect quality of life (QOL). Those who underwent weight loss surgery (WLS) (n = 532) at two academic centers in the Boston, MA area were followed for four years. Medical data was abstracted and participants were given surveys at pre-determined time points pre- and post-surgery to assess various outcomes.

Methods: The standard gamble approach was used to assess participants' health utility. Each participant was asked to consider a hypothetical scenario in which they continue in their current state of health (i.e. current body weight and health) or take a gamble. The gamble has two possible outcomes – optimal health or death. For example, a participant who cannot decide between continuing in their current health or taking a gamble where the probability is 90% for "perfect health" at a 10% risk of immediate death is assigned a health utility of 0.90. Our first aim was to assess who was most likely in the group with the lowest baseline health utility.

Results/Outcomes: The cohort includes 532 participants who underwent WLS. Nearly one-quarter of the cohort (n = 129), had a baseline health utility less than 0.90. In multivariate analysis, significant predictors of being in the lowest baseline health utility group were baseline BMI (OR=1.04, 95% CI=1.01, 1.06, p<0.001) and race (non-white vs white; OR=0.52, 95% CI=0.32, 0.85) after adjusting for age, sex, and education.

BIostatISTICS

Name: Huang, Xinran
Practicum Site: Boston University School of Public Health
Location: Boston, MA
Title: Graduate Research Assistant

Introduction: Networks of family members and health workers may play an important role in maternal health behaviors. Maternal women's perception for the connections among network members may influence their interaction with these members, thus impacting their health behaviors. The goal of our study was to generate hypotheses for the relationship between the perception and health behaviors.

Methods: Data collected from Recently Delivered Women's (RDW) egocentric networks was used. My scope of work consisted of three aspects: (1) I created network data visualization and basic descriptive statistics in R. (2) I developed a binary logistic regression model to test the relationship between immediate breastfeeding and different types of perception, adjusting for other predictors. I used data reduction methods to select predictors, tested model fit and cross-validated the model. (3) I wrote a report explaining the methods I used and displaying the result.

Results/Outcomes: The logistic regression model showed that one type of the perception was related to immediate breastfeeding, after adjusting other predictors. This indicates that a closely connected network where many members know each other may have direct impact on health behaviors. Further study with a larger sample size is needed to validate this finding.

Name: Hussain, Yasmin
Practicum Site: Boston Veterans' Affairs Healthcare System
Location: West Roxbury, MA
Title: Health Systems Administrative Trainee

Introduction: The VA Boston Healthcare System seeks to provide the highest quality of care to the veteran population, whilst also providing innovative research with the goal of creating a learning healthcare system. Massachusetts Veterans Epidemiology Research and Information Center (MAVERIC) is currently running a Point of Care Study, called the Diuretic Comparison Project (DCP), which seeks to implement a centralized study process that relies on usual primary care to run the study.

Methods: I conducted an extensive literature review on pragmatic clinical trials using similar study methods as DCP. I also did research on the topic of transitioning from International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes to the Tenth Revision, Clinical Modification (ICD-10-CM) codes and their validity in diagnosing medical outcomes. I am currently working on a paper that summarizes all of the research accumulated in the literature review and performing a meta-analysis using the statistics found from these epidemiologic studies to assess the validity of ICD codes in predicting medical outcomes from electronic health records.

Results/Outcomes: Conducting the literature review has provided insight on what modifications are needed to be made on the design of the study in order to produce effective results. The paper is ongoing, but through the results found from the meta-analysis recommendations will be made on the validity of using ICD codes to create algorithms predicting specific medical outcomes in not only the DCP study, but also future studies using electronic health records.

Name: Johnston, Salem
Practicum Site: Boston Healthcare for the Homeless Program
Location: Boston, MA
Title: An Investigatory Analysis of Substance Abuse Disorder Diagnoses in a Population of Homeless Military Veterans

Introduction: Boston Health Care for the Homeless Program (BHCHP) provides primary care, dental care, case management, and behavioral health services to over 12,000 individuals experiencing homelessness in Boston each year, around 14% of which are military veterans. The program delivers care in a wide variety of settings to the city's most vulnerable residents, documenting all services electronically in a program-wide electronic health record. This robust source of clinical data can be leveraged to closely examine the diseases affecting this population. The objective of this practicum was to investigate the incidence of substance use disorder (SUD) diagnoses in BHCHP's military veteran patient population and how it differs from the incidence in non-veterans.

Methods: This investigation involved the following activities: familiarization with BHCHP's database and database management tools; using Business Intelligence software to systematically extract relevant data from BHCHP electronic medical record data; compiling, cleaning, and coding data, conducting basic descriptive analyses in Excel; Pearson t-tests, chi-square tests, and multiple logistic regression analyses conducted in SAS 9.3. Several iterations of this process were completed over the course of the practicum, tailoring the focus of the project to meet the host's needs.

Results/Outcomes: SAS analyses, tables, and graphics describing the relationship between veteran status and SUD diagnoses will be compiled and shared with clinical staff at BHCHP's veteran shelter clinic as well as Research Department staff. Results will be used to identify potential care gaps, inform future program implementation, and provide a basis for further investigation.

BIostatISTICS

Name: Maddali, Lakshmi
Practicum Site: Transvoyant
Location: Odenton, MD
Title: Data Science Intern

Introduction: In TransVoyant, big data analysis serves to predict global events that can affect supply chain management and national security. This can directly alter the health and safety of the nation. In order to predict large changes in health and safety, big data from different sources are studied and analyzed. By analyzing these datasets, it is possible to predict significant events over a period of time. The end goal is to make a Pattern Of Life (POL) Analysis for an area of interest that is selected by the client. This prepares the client to take action in preparation for the future.

Methods: Weather data, currency data, transportation data, as well as informational data are collected for the undisclosed area of interest (AOI), as well as the key countries surrounding it. This data is then refined so that it may be processed in Rstudio and Scala. To account for missing data, new values are imputed based on previous averages. Time series plots are created for each category based on specific date and counts of the occurrence of each category. For example, for transportation data, the daily count of cargo ships is graphed. Through visual analysis, key disastrous events are detected and a POL analysis is formed based on a standard score.

Results/Outcomes: A dashboard of the final visualizations is built and presented to the customer for the use of predicting future events for possible application in supply chain management, health and safety of the public, and various other purposes.

Name: Stewart Smith, Emily
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Health Care Utilization Research Assistant

Introduction: Hydroxyurea (HU), which raises hemoglobin F (HbF) is associated with reduced acute care among sickle cell disease (SCD) patients. The goal of this practicum was to assess acute care utilization relative to HU status and HbF response rates at Boston Medical Center (BMC).

Methods: 208 patients were categorized as either not prescribed HU, prescribed HU with an HbF response of less than 15%, or prescribed HU with an HbF response of at least 15%. A Kruskal-Wallis test was used to assess whether the distribution of emergency department (ED) visits, hospitalizations, inpatient length of stay (LOS), 30 day hospital readmissions, and Emergency Department Reliance (EDR) varied significantly by HU category. Among HbSS patients prescribed HU, HbF was analyzed as a continuous variable and dichotomized as either above or below 15%. A Wilcoxon rank-sum test was used to assess whether EDR differed by HbF category, and Spearman's rank correlation was used to test for an association between HbF and EDR.

Results/Outcomes: ED visits ($p=0.0372$), hospitalizations ($p<.0001$), LOS ($p<.0001$), 30 day readmissions ($p<.0001$), and EDR ($p=0.0324$) all varied significantly by HU status. The distribution in EDR among those with an HbF of at least 15% (mean=0.30, median=0.25), compared to those with an HbF of less than 15% (mean=0.17, median=0.17) differed significantly ($p=0.0299$). Among HbSS patients prescribed HU, there was also a significant, inverse association between HbF and EDR of -0.2183 ($p=0.0275$). Because HbF response is associated with acute care utilization, adherence at maximum tolerated dose should be emphasized alongside HU prescription.

Name: Zuo, Yi
Practicum Site: Boston University School of Medicine
Location: Boston, MA
Title: Patterns of injury severity among U.S. firearm hospitalizations from 1993 to 2013

Introduction: Non-fatal firearm injuries drive the epidemic of firearm violence, while patterns of severity of these injuries are poorly understood.

Methods: To examine the overall, intent- and age-specific temporal trends in firearm, we designed a repeated cross-sectional study using Nationally representative hospitalization data from 20 percent stratified sample of discharges from U.S. community hospitals injury severity from 1993 to 2013. Firearm hospitalization identified by ICD-9 codes assault (E965x), unintentional (E922x), suicide (E955x), legal (E970) and undetermined (E985x). Injury severity was measured using Computed New Injury Severity Score (NISS), Abbreviated Injury Scale (AIS) and Injury Severity Score (ISS). We used survey weighted multinomial logistic regression to analyze overall and subgroup-specific temporal trends and to estimate annual change per 100,000 hospitalizations.

Results: NISS increased annually by 0.20 from 1993-2013 ($p_{trend}<0.0001$). Annual change of NISS for assault, unintentional, suicide and undetermined was 0.23, 0.08, 0.15 and 0.21 respectively ($p_{interaction}=0.006$). Minor lacerations declined and serious open fractures increased in all intents, but with differing magnitudes ($p_{interaction}=0.016$) while the magnitude of declining external injuries and increasing facial injuries in each intent was also different ($p_{interaction}=0.001$). The magnitude of annual change in NISS, AIS and ISS was different by age groups ($p_{interaction}=0.027, 0.015$ and 0.030). The age-specific annual changes were different by intent ($p_{interactionNISS}=0.018, AIS=0.007$ and $ISS=0.011$). Severity of firearm injury hospitalizations increased from 1993 to 2013 indicating an increasing burden and costs. This increasing severity is primarily driven by differential in severity and location by intent and age.

ENVIRONMENTAL HEALTH

Name: Manning, Timothy
Practicum Site: Massachusetts General Hospital
Location: Revere, MA
Title: MGH Community Health Associates Graduate Student Intern

Introduction: Normally considered a disease of baby-boomers, the incidence rate of Hepatitis C is rapidly increasing among much younger cohorts. This change is supposedly due to the ongoing epidemic of opioid drug use; the sharing of needles among users being a mechanism for transmission. This study aimed to use the patients one community health center (MGH Revere Health Center) as a microcosm of the Hepatitis C epidemic. This practicum was meant to help the staff of the clinic to clarify the demographics of their patient population, and to determine if outreach, screening, and treatment methods should be adjusted.

Methods: Data for 501 patients was gathered from MGH's electronic medical records system. Patients were categorized in Excel spreadsheets according to risk factors, demographics, screening, and treatment. Revere patients were compared to CDC surveillance data for nationwide and statewide trends for Hepatitis C incidence and risk behaviors. Charts and graphs of patient data was presented for Revere Hepatitis Clinic internal review.

Results/Outcomes: Nationally, 75% of Hepatitis C patients were born between 1945 and 1965. Revere patients were younger than this; 52% between ages 45 and 65, 35% between 18 and 44, and 8% over 66 (Mean age 49, STDev 14.027). 56% of patients had a history of heroin usage and 66% opioids, whereas only 38% of patients nationally identified one of these risk factors. Revere patients provide evidence to support the association between opioid drug use and Hepatitis C. Revere patients were younger than the national average, and demonstrated a higher rate of opioid usage.

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

Introduction: The national obesity epidemic is a major contributor to several leading causes of death, including heart disease, stroke and diabetes. A newly appreciated contributor to this epidemic is the idea of *environmental obesogens*, chemicals that disrupt metabolic functioning by modulating key genetic pathways critical for regulating lipid, glucose and energy homeostasis. Two environmental chemicals of emerging concern include Triphenyl phosphate (TPhP), a flame retardant found in consumer goods and plastics, and Triphenyltin (TPhT), an EPA registered fungicide. Evidence of human exposure to these chemicals call for research to be done on their propensity to effect fat cell formation. This practicum investigated the effects of exposure to these environmental obesogens on human pre-fat cells.

Introduction: This practicum determined the optimal protocol for differentiating human pre-fat cells. I examined the dose-response relationship between exposure to either a positive control (Rosiglitazone), TPhT, or TPhP, and the subsequent fat cell formation in human pre-fat cells. In addition, I measured the relative expression of genes involved in fat cell formation for each treatment group.

Results/Project Outcomes: Data suggest the environmental chemicals of interest are able to induce fat cell formation in human cells. In each treatment group, increasing dose was associated with increased formation of fat cells. Additionally, fat cell formation data proposes TPhT as the most potent (Effective Dose $50=1 \times 10^{-9.5}$), and Rosiglitazone as the most efficacious (max response=653 relative fluorescence units). Gene expression data suggest a positive association between increasing dose of environmental chemical and elevated expression of genes responsible for fat/brown fat cell formation.

Name: McKenney, Heather
Practicum Site: Boston University School of Public Health (BUSPH)
Location: Boston, MA
Title: Research Assistant for Environmental Mixtures Study

Introduction: Most chemical regulatory policies regarding acceptable exposures are based upon individual chemical data. However, people are exposed to many potentially hazardous chemicals in their environments simultaneously. Currently, risk assessors do not have adequate tools to account for mixture effects (antagonism, synergism, etc.) and are forced to manipulate individual-level chemical data to predict how a given mixture may impact human health. Consequently, chemical-based risk assessments are tedious, expensive, and have high levels of uncertainty. Mathematical models, such as the Generalized Concentration Addition (GCA), offer a valuable tool for better predicting mixture effects than the alternatives.

Methods: This practicum consisted of experimentally treating a human cell line with natural and synthetic chemicals found to stimulate the estrogen receptor (environmental estrogens) in order to evaluate the efficacy of the GCA. Outcomes included dose-response curves that demonstrate the relationship between receptor activation or cell growth and increasing chemical doses or mixtures.

Results/Outcomes: This practicum is a part of an ongoing study to identify the usefulness of GCA in both the estrogen receptor and androgen receptor systems. The work accomplished during this practicum provided the "observed" experimental values with which to compare GCA predictions to ultimately examine the effectiveness of the GCA. Additionally, this practicum has set the stage for further investigation into common estrogen and androgen receptor ligand mixtures. The results of the study may reduce the need for future mixture experimentation, while also reducing the level of uncertainty associated with risk assessments for chemical mixtures.

ENVIRONMENTAL HEALTH

Name: Ramirez-Cardenas, Alejandra
Practicum Site: Boston Children's Hospital,
Location: Boston, MA
Title: Spanish Language Curation Intern

Introduction: The Zika virus is a Flavivirus spread by the same mosquito responsible for the spread of the Dengue, Chikungunya, and Yellow Fever. The current outbreak of Zika began in Brazil on April 2015 and continues to spread worldwide. Symptoms from infection are mild and are often unnoticed; infection during pregnancy has been linked to microcephaly. There is no vaccine or treatment for the Zika virus. The purpose of this practicum was to harvest data from Zika-related media reports and use this information to determine how infection relates to environmental determinants of disease.

Methods: Curation was done of relevant Spanish language data within HealthMap's automated system of online media reports. Relevant data was added to the system, analyzed, and disseminated through a centralized outbreak timeline website (healthmap.org/zika). Response to the outbreak in terms of vector control measures were reviewed and presented to a lay audience in the form of HealthMap's periodical, the DiseaseDaily (healthmap.org/site/diseasedaily).

Results/Outcomes: Vector control measures involved diverse efforts including environmental sanitation, chemical control and physical control measures, educational campaigns, and novel approaches such as genetically modified mosquitos. Areas with proactive preventative vector control measures, had a lower disease incidence compared to areas whose vector control efforts began once Zika had already been reported. Lastly, media reports focused on vector control measures increased once cases of Zika were reported in an area.

Name: Spooner, Theresa
Practicum Site: Boston University School of Public Health (BUSPH)
Location: Boston, MA
Title: Investigating health risks associated with artificial turf fields and playgrounds

Introduction: The installation of artificial turf fields using rubber infill and playgrounds with rubber as a shock absorber poses a health risk as most of this rubber is derived from recycled tires, often labeled as a hazardous waste and banned from landfills. Instead of disposal, companies "recycle" tires and create "crumb rubber", selling it as infill. No regulations currently exist for the use of crumb rubber and anecdotal evidence of cancers in youth exposed initially alerted to data gaps. Lack of knowledge about health risks from exposure to crumb rubber affects decisions made regarding its use, thus current information was summarized.

Methods: A literature review targeting studies of human health and ecological effects from the use of crumb rubber, including a breakdown of types of infill available, was completed. Additional information was gathered about generations of artificial turf, chemicals used in tire production, and processes used to produce crumb rubber. Data on playgrounds under control by the Massachusetts Department of Conservation and Recreation (DCR) and selected athletic fields throughout Massachusetts was mapped onto a public link using ArcGIS. A survey tool was designed and implemented with local community members to understand the decision-making process when choosing to install crumb rubber.

Results/Projected Outcomes: Data gaps were revealed in toxicological information and information regarding additional types of infill. Survey results indicate that cost plays a major factor in the installation of artificial turf fields and type of infill used in playgrounds. The map allows a visual assessment of location and physical properties of fields and playgrounds.

Name: Sullivan, Kylee
Practicum Site: Barnstable County Department of Health and Environment
Location: Barnstable, MA
Title: Intern

Introduction: The Cape Cod Hoarding Task Force (CCHTF) is an all-volunteer organization that provides education and consultation to organizations involved in hoarding on Cape Cod. Hoarding is a mental illness that, without treatment, can lead to house evictions and health issues. If CCHTF became affiliated with a fiduciary organization, such as Barnstable County, the program would be able to receive direct service funding. Due to hoarding's harmful impact, CCHTF strives to formalize itself as a Barnstable County program with support from the Department of Health and Environment in order to fund direct service interventions.

Methods: Community-wide support for formalization was assessed through a google survey and telephone outreach to 115 organizations, such as health and police departments, involved in hoarding cases. Data collected from a Community Health Network Area mini-grant was analyzed to determine the effectiveness of direct service intervention in 17 hoarding cases.

Results/Outcomes: Community support was strong with all 77 survey responders indicating formalization support. Six of the 17 hoarders had complete data collected on their impeded ability to complete activities of daily living (ADL), from possession accumulation, using a verified scale. 62% of the 52 ADL changes observed were positive; the majority of direct service interventions were successful. However, data was limited; more must be collected to demonstrate the true effect of direct service intervention with hoarders on Cape Cod. In the near future, a strong case will be presented to the Barnstable County Commissioners regarding the benefits of formalizing CCHTF as a Barnstable County resource.

ENVIRONMENTAL HEALTH

Name: Tomsho, Kathryn

Practicum Site: Massachusetts Department of Environmental Protection

Location: Boston, MA

Title: Examining PCB concentrations in New Bedford Harbor Quahogs for Human Risk Implications

Introduction: Consumption of fish caught in New Bedford Harbor (NBH), an 18,000 acre PCB-contaminated Superfund Site located on the south coast of Massachusetts is the key determinant for clean-up of the Site. The main sources of the pollution were manufacturers and users of the PCBs into the upper harbor and Buzzards Bay until the late 1970s. PCBs are man-made chemicals that are probable human carcinogens and shown to cause neurological impairment, immune system impacts, and changes in reproductive abilities. Children and fetuses are more susceptible to the effects of PCBs than adults. U.S. EPA has been removing contaminated sediments in NBH since 2003. To measure the efficacy of removal on PCB concentrations in the local seafood, the Massachusetts Department of Environmental Protection (MassDEP) has managed the annual analysis of PCBs in fish and shellfish from NBH. Quahog monitoring data from 2003-2015 are analyzed for spatial and temporal trends here.

Methods: Microsoft Access and Excel were used to statistically analyze and create visual presentations of the quahog data to answer questions raised by MassDEP staff. A human health risk assessment was performed to determine if the fishing restrictions for recreational anglers are still applicable to quahogs in Zone 1 (uppermost part) of the harbor. A report is being generated to summarize results.

Results/Outcomes: The data show slight changes in total PCB concentrations in quahog tissue since 2003 throughout the harbor. Quahogs are still not considered safe to eat in Zone 1 of NBH.

EPIDEMIOLOGY

Name: Bajaj, Benjamin

Practicum Site: Boston Medical Center, Infectious Disease Clinical Trials Unit - TB CDRC

Location: Boston, MA

Title: Literature Review

Introduction: Tuberculosis is one of the top infectious disease killers worldwide, yet can be cured with proper diagnosis and treatment. Stigma, a process in which an individual feels shame or guilt resulting from having an undesirable trait, can lead to isolation and is a known barrier to TB treatment. Stigma from TB is widespread throughout India and is felt the greatest among the most vulnerable populations where the burden of TB is the strongest.

Methods: Through the International Tuberculosis Institute located at Boston University, I conducted a formal literature review on TB-related stigma, specifically studies on interventions which led to stigma-reduction. Since there has been documented success using interventions for HIV-related stigma, the search included these studies. Key search terms included "interventions to decrease TB stigma" and "patient empowerment." Data collected included location, target populations, types of interventions employed, and effects before and after intervention. 35 out of 54 papers reviewed were included.

Results/Outcomes: I developed a master spreadsheet including key elements of the review. I prepared a presentation, summary report, and background paragraph that detailed relevant interventions for a grant proposal. Significant findings suggest a high acceptance rate for TB clubs meant to empower individuals or family supervised treatment. The results indicate a reduction in stigma may improve treatment outcomes and increase treatment seeking behavior. The research will inform a pilot study which aims to identify sources of TB stigma within Pondicherry, India, and determine appropriate interventions to reduce it and improve treatment seeking behavior.

Name: Bard, Spencer

Practicum Site: Boston University School of Public Health (BUSPH) - Data Coordinating Center

Location: Boston, MA

Title: Research Assistant- BU AD/CTE Center, BUSPH Data Coordinating Center

Introduction: The objective of this practicum was to learn and develop skills in data entry, data cleaning, and quality assurance. As a Research Assistant at the BUSPH Data Coordinating Center I collaborated on two studies based at Boston University. The UNITE project aims to learn about factors leading to the development of chronic traumatic encephalopathy using brain tissue donated from deceased athletes and military personnel. The URBAN ARCH/ ZINC project observes the effects of zinc dietary supplements on microbial translocation in HIV positive, ART naive alcohol users in St. Petersburg Russia.

Methods: While working on UNITE, I utilized RedCap software to double-enter information from 42 clinical interviews consisting of up to 1000 variables each. After the data entry process, I wrote SAS code for the two interview subsets allowing for the comparison of double-entered data to ensure both completeness and accuracy of all interview data. The URBAN ARCH/ ZINC umbrella comprises three cohorts in Boston, Uganda, and Russia- as interview forms for the Russian cohort are necessarily produced in Cyrillic, there are verification errors that must be corrected. Using the English versions of the forms to aid translation and SAS to clean, I identified and corrected inaccurate information to create high-quality datasets.

Results/Outcomes: After the errors in the double-entry UNITE interview data are reconciled by study personnel, the DCC will perform a final audit before releasing the data for analysis. ZINC data will also undergo an audit before distribution to study personnel.

Name: Brickey, Derek

Practicum Site: New Hampshire Dept of Health and Human Services

Location: Concord, NH

Title: Summer Intern

Introduction: The Nashua Division of Public Health and Community Services works to improve a wide range of public health issues in Nashua, NH, and the surrounding townships. The Division leads a broad spectrum of efforts to improve health on both the individual and community level, including continuous community health assessment, reduction of opioid use, improving access to healthcare, lead reduction, sanitation testing, awareness events, and free disease screening clinics. I am working under the community health section and assisting in several ongoing projects, most notably, the Mayor's Opioid Task Force (MOTF), the 2017 Community Health Assessment (CHA), and a tuberculosis outbreak investigation.

Methods: I am working directly with the MOTF to gather data on opioid use, emergency department visits, arrests, and overdoses from different agencies to quantify the problem and establish a database for the MOTF. In addition to opioid use, I am gathering other community health data from secondary sources for the upcoming CHA, and determining which data the division will need to request from the state. I am working with public health nurses to establish a timeline in the TB outbreak, identify possible exposures and new cases, track test results, and tabulate attack and transmission rates.

Results/Outcomes: At this point in the practicum, I have 1) Created a database on opioid use and am building a report for the MOTF, 2) Started preliminary data collection for the CHA and assisted in creating a survey for CHA benefactors, 3) Assisted in identifying 27 individuals at risk for TB and tracked PPD test results.

EPIDEMIOLOGY

Name: Brown, Shayla
Practicum Site: Massachusetts Department of Public Health
Location: Boston, MA
Title: Determining the Scope of the Opioid Epidemic in Bedford, Massachusetts

Introduction: The Massachusetts Department of Public Health (MDPH) reports a 78% increase in unintentional opioid overdose deaths between 2000 and 2015 in the state. The goal of this research is to determine the scope of the opioid epidemic as it pertains to the town of Bedford, Massachusetts through data collection and analysis on fatal opioid overdoses occurrences through 2016.

Methods: Data was collected from Bedford first responders to describe trends in Bedford opioid overdoses. A brief survey tool administered to first responders was developed to assess what opioid or opioid-related substances are most frequently used in overdose incidents. Findings from the MDPH were used to compare rates of overdose occurrences to the data captured in Bedford.

Results/Outcomes: As of July 2016, there have been 18 non-fatal overdoses; five fatal opioid-related overdoses in Bedford – a 250% increase since 2012 (n=2), with a median age of 34 years. Prescription opioids, non-prescription opioids and alcohol were among the most commonly used substances involved in overdose incidents. Four of the fatal overdoses share comorbidities of mental illness, history of addiction, repeat occurrences of overdose incidents and/or previous rehabilitation for substance abuse. These findings may suggest that there is an emerging opioid epidemic in Bedford. Further research to understand the substances that contribute to opioid addiction is needed in order to prevent the progression of opioid addiction and mortality.

Name: Cao, Yige
Practicum Site: Harvard Pilgrim Health Care Institute
Location: Boston, MA
Title: Summer Intern

Introduction: Data quality assurance/quality control (QA/QC) is vital for the internal validity of epidemiologic studies. MDPHnet is a distributed network of EHR-based data depositories, which facilitates public health surveillance of Massachusetts Department of Public Health and supports the needs of clinical data partners. The goal of this summer practicum is to initiate and standardize data quality assurance for MDPHnet by examining current and historical data collected from clinical data partners using customized dashboards.

Methods: A literature review on data quality assessment and data validation for the secondary use of electronic health record was conducted to develop a set of metrics and criteria for systematical data review. The review covered selected data of individual clinical partner within Massachusetts from 2010 to date. It also included a comparison of the selected metrics across partners and center-specific data quality check.

Results/Outcomes: By the end of this practicum, I created several customized dashboards (including overview, vital signs, lab results and prescription, social history and behaviors) using Qlik, one of leading business intelligence tools. These dashboards are designed to be used in future data characterization and data standards projects within Harvard Department of Population Medicine beyond MDPHnet. In addition, an explicit data issue list as well as a proposal for future data quality assurance query were developed for further QA/QC investigations.

Name: Cox, Rachele
Practicum Site: Abington, MA Board of Health
Location: Abington, MA
Title: Health Inspector Intern

Introduction: Local Health Agents perform routine inspections of food service establishments to ensure regulations determined by the FDA food code are being followed. These regulations are intended to ensure safety of food prepared and sold to consumers and reduce the risk of foodborne illnesses. Despite frequent inspections, some establishments in Abington, MA have repeated violations. This investigation determined the common repeat violations and created targeted educational material to inform food establishments about the common violations in clear language.

Methods: Inspection reports from the 2015 and 2016 of 78 establishments were used to determine the current common repeat violations. 28 retail and 48 food service establishments were separated and specific violations were determined, creating the list of common repeat violations. Educational brochures were created to distribute the information due to ease to create and distribute and as a clear and quick way to get the information across.

Results/Outcomes: In the retail establishments, 7 major violations made up 85% of all violations. In the service establishments, 9 major violations made up 58% of the violations. Two brochures were developed: one specifically for Retail Establishments and the other to Food Service Establishments. The statements give the specific food code, tips on how to follow the rule and why the violation is important for food safety. It is recommend to provide the brochures when presenting inspection results to managers. Use of targeted education brochures is expected to decrease common repeat violations and result in food establishments that are cleaner and healthier for their patrons.

EPIDEMIOLOGY

Name: Dailey, Taryn
Practicum Site: Inflexxion, Inc.
Location: Newton, MA
Title: Epidemiologist at Inflexxion

Introduction: Understanding differences between men and women in substance abuse treatment settings assists public health professionals in the tailoring of services. Previous literature has highlighted gender differences among substance abusers; for example, women tend to have greater problem severity, and more frequently have psychological comorbidities (e.g., anxiety disorders). This practicum experience examined the characteristics of men and women assessed for substance abuse treatment planning within a network of sites utilizing the Addiction Severity Index-Multimedia Version / Behavioral Health Index-Multimedia Version (ASI-MV/BHI-MV) assessment tool, with particular focus on psychological comorbidities, lifetime experience of abuse (i.e., physical, emotional, sexual), and severity scores.

Methods: A literature review on gender and substance abuse was conducted using PubMed. Descriptive statistics stratified by gender were run for demographic characteristics and other variables of interest. Multivariate logistic regression was performed to explore whether and to what extent psychological comorbidity and experience of abuse was related to problem severity scores across several areas among men versus women. A sensitivity analysis was conducted; in one analysis moderate severity was grouped with high severity, and in the other analysis it was excluded.

Results/Outcomes: Preliminary results indicate that, compared to men, women had higher mean severity scores across all domains with the exception of alcohol severity. A greater percentage of women reported a psychological diagnosis, and lifetime physical, emotional, and sexual abuse. Logistic regression analyses results are forthcoming.

Name: Day, Sydney
Practicum Site: Massachusetts Department of Public Health
Location: Jamaica Plain, MA
Title: MDPH Zoonotic Disease Program Intern

Introduction: Lyme disease (LD) is a reportable disease in Massachusetts that is acquired through the bite of an infected black-legged tick (*Ixodes scapularis*). If left untreated, LD may manifest with late-stage symptoms including musculoskeletal, cardiac, and neurological complications. The purpose of this investigation was to identify patterns in cases reported with late-stage disease versus those reported with early-stage disease to examine characteristics between case groups that might serve as potential targets for preventative intervention.

Methods: Data on reported probable and confirmed cases of LD in Massachusetts residents was extracted from the Massachusetts Virtual Epidemiologic Network (MAVEN) for the years 2014 and 2015. Early- and late-stage cases were defined based on specific reported symptoms, and were then compared by month of event, sex, county of residence, and age group.

Results: Due to the difference in incubation period relative to early and late symptoms, it is likely that a portion of late-stage cases are being exposed at the earliest point of the season by the nymphal stage of *Ixodes scapularis*. This indicates that a proportion of individuals with LD are either not recognizing the early symptoms of infection and not seeking healthcare, or are seeking healthcare and not being identified and treated appropriately. This suggests that there are opportunities for intervention with the public and healthcare providers to improve identification of early symptoms of LD. In addition, an increased proportion of late-stage symptoms was found to be reported among males and 11 to 20-year-olds, which may be potential target groups for prevention messaging.

Name: Elsier, Catherine
Practicum Site: BU School of Medicine and BMC
Location: Boston, MA
Title: Research Assistant

Introduction: There is widespread stigma related to the diagnosis of Tuberculosis (TB) among patients and this can vary by one's gender, socioeconomic status, and culture. Globally, there are about 9.6 million incident cases, with 3.2 million cases among women. It is important to understand the implications of stigma in women in particular to reduce gender disparities in TB care. Therefore, the goal of my practicum was to perform a literature review on the relationship between TB-related stigma and TB treatment adherence in women.

Methods: A literature review on the association between TB-related stigma and TB treatment adherence in women was conducted to better understand the complex relationship between the two issues. An excel master spreadsheet was used to input important data from the 45 peer-reviewed articles I found on PubMed.

Results/ Outcomes: Literature review found that factors relating to stigma, including fear of social isolation and fear of shame upon their families from disclosure of their illness, lack of or no social support from healthcare workers and the cost/access to treatment and care influenced treatment adherence among women. Gender roles in the community also influenced adherence, with women being dependent on men to make decisions for them, such as when to seek care. Results were used as part of background literature for a research study focused on understanding TB-related stigma in Pondicherry, India (part of an existing household contact study) and could guide development of future interventions to combat gender-disparities and stigma related to the diagnosis of TB in women.

EPIDEMIOLOGY

Name: Farooq, Sarah
Practicum Site: Dana Farber Cancer Institute
Location: Boston, MA
Title: Clinical Research Assistant

Introduction: In the US, breast cancer in women is the second most common type of cancer after skin cancer. While ovarian cancer has a low occurrence, it is the leading cause of deaths compared to other gynecological cancers. The purpose of this practicum project was to review the conception phase of clinical trial development, and assist in designing electronic case report forms (eCRFs).

Methods: I attended a meeting where the investigators presented 3 protocol concepts for Phase I and II clinical trials involving breast and ovarian cancer treatment using a Checkpoint Kinase 1 (CHK1) Inhibitor as single therapy and in combination with chemotherapies. We reviewed scientific merit of the concepts based on hypothesis, study endpoints, study design and correlative studies. I conducted a literature review for clinical data on the safety and efficacy of CHK1 inhibitors, and presented findings. I also assisted the Data Analyst with designing eCRFs by formulating data capture questions that were protocol specific, followed by testing and providing feedback.

Results: All protocol concepts for the CHK1 Inhibitor received high scores and were approved for protocol development. The literature review revealed that CHK1 inhibitors in general work better in combination with chemotherapies, but have shown promising results as a single agent in a small population of patients and worth exploring further. I helped design eCRFs for 3 new clinical trials, and found that formatting mistakes and carry over of irrelevant questions from previous clinical trials were common errors, and that testing the eCRFs twice helped eliminate them.

Name: Fernandez, Gabriela
Practicum Site: Boston University School of Medicine
Location: Boston, MA
Title: Study Assistant, Transitioning Databases from Microsoft Excel to Microsoft Access

Introduction: The Urban Environment and Childhood Asthma (URECA) study is an observational prospective cohort study that enrolled 146 women in central urban areas of Baltimore, Boston, New York City, and St. Louis, and is following their children from birth to ages 14-16 years old. The purpose of this study is to determine the way environmental factors such as the components of inner-city household dust affect immune system development and symptoms of asthma in inner city children. My role in this project was to build a Microsoft Access database tailored to the needs of the URECA study, and then transition study data from an existing excel spreadsheet into the new Access Database. This database was desired in order to have an easier way for URECA staff to interact with participant data.

Methods: We held several meetings with the URECA study coordinator to help identify the needs of the new Access database and to refine the design. A few key features needed from the database included differentiating between active and inactive participants and creating summary reports utilizing the different information fields. Once an optimal design was determined, we used available online resources to identify key design functions and capabilities to help build the database. Data integration in our new Access database is ongoing.

Results/Outcomes: The new Access database was successfully established, and the study participant information has been integrated into the database. The database is in its testing phase for any issues not identified in the design process, with opportunities for updates as any potential problems arise.

Name: Folly, Ekoue
Practicum Site: Massachusetts Department of Public Health
Location: Boston, MA
Title: Enhanced Surveillance of Chickenpox Hospitalizations in Massachusetts

Introduction: Primary infection with varicella zoster virus (VZV) in humans leads to chickenpox which is a highly infectious, vaccine-preventable, and reportable disease in Massachusetts. The epidemiology of chickenpox in hospitalized cases is not well understood. Data collection in the current surveillance system MAVEN (Massachusetts Virtual Epidemiologic Network) is passive, incomplete, and may not distinguish chickenpox from shingles, a disease caused by reactivation of VZV. I conducted enhanced chickenpox surveillance to improve data completeness and help understand the occurrence of chickenpox in hospitalized cases.

Methods: Hospitalized chickenpox cases from January 2015 to June 2016, defined as those admitted for > 24 hours, were identified. I created an investigation form, interviewed infection control practitioners, and reviewed medical records to collect demographic, clinical, and vaccine information.

Results/Outcomes: Twenty-six presumptive hospitalized cases were identified. Two were never hospitalized and were excluded from the analysis. Nine (38%) of the remainder were confirmed chickenpox cases, thirteen (54%) shingles cases, and two (8%) had no symptoms of either chickenpox or shingles. Among the nine confirmed chickenpox cases, three (33%) were admitted for IV treatment, two (22%) for fever, one (11%) for dehydration, three (33%) for observation only. Seven (77%) were >18years old. Six (67%) suffered >250 lesions. Four (44%) had comorbid conditions; one (11%) had a clinical complication (secondary bacterial skin infection). This project improved the accuracy of chickenpox surveillance in Massachusetts and will contribute to national analysis conducted by the CDC.

EPIDEMIOLOGY

Name: Gamble, Olivia

Practicum Site: Boston Medical Center/BUSM

Location: Boston, MA

Title: Research Assistant: A Pilot Study: Optimizing Pain Control and Safety in Patients Prescribed Opioids after Day Surgery

Introduction: Interventions designed to enhance patient engagement in pain management improve pain relief and use of non-medication treatment methods. I conducted a sub-analysis of an observational cohort study to assess whether patient engagement in the pain treatment process affected post-operative opioid consumption and pain relief.

Methods: I performed a literature review guided by Social Cognitive Theory on patient engagement related to pain management decisions, health behaviors, and pain relief. I then analyzed the association of patient engagement (feeling fully informed on and participating in the pain treatment process) with 1.) opioid consumption; and 2.) pain relief, using generalized linear and ordered logistic regression models in SAS. Subjects were patients who reported taking prescribed opioid analgesia after ambulatory surgery (n=121). Adjusted models included patients with complete covariate data. Covariates included socioeconomic status, prescription opioid use history, alcohol abuse risk, severe pain, opioid prescription amount, and surgical specialty (pain relief model only).

Results: Higher patient engagement in the pain treatment process was significantly associated with a 37% reduction in opioid consumption (n=77; 95% CI: 1%-61%). In contrast, higher patient engagement was significantly associated with 81% reduced odds of having effective pain relief (n=81; 95% CI: 14%-96%). These disparate results highlight the need to increase patient engagement in post-operative pain management decisions to effectively tailor treatment plans to patients' needs. Future work will involve creating educational brochures based upon Social Cognitive Theory to promote implementation of pain treatment plans to improve pain relief and reduce unnecessary opioid consumption.

Name: Guarino, Allison

Practicum Site: Massachusetts Department of Public Health

Location: Boston, MA

Title: Monitoring and Evaluating the Personal Responsibility Education Program (PREP) in Massachusetts

Introduction: The Personal Responsibility Education Program (PREP) is a federally funded health education program in Massachusetts. It uses a positive youth development framework and evidence-based curriculum for pregnancy and STI prevention, particularly regarding high teen birth rates. PREP aims to serve 2,500 youth annually through schools and community-based organizations. This practicum focused on the monitoring and evaluation of PREP for fiscal year 16 and the development of a new monitoring and evaluation plan for the next 5-year federal PREP grant.

Methods: In this practicum, I tracked the progress of funded agencies and schools at the end of fiscal year 16, using existing data to summarize program outcomes. Working through the PREP Logic Model and in assessing FY16 PREP data, I brainstormed how DPH could capture their outlined performance measures, keeping in mind the federal reporting requirements and feasibility for providers.

Results/Outcomes: Through the collection of FY16 fidelity and attendance information, research of federal PREP expectations, and understanding of MDPH PREP performance measures, I modified fidelity and attendance templates and data tracking reports, accordingly. These templates and trackers will start to collect FY17 PREP data. My final task was creating an Evaluation Plan for PREP that outlines their year-round reporting expectations.

Name: Iannone, Ashley

Practicum Site: MA Department of Public Health

Location: Boston, MA

Title: Sports Concussion Regulations

Introduction: A concussion is a type of traumatic brain injury that is caused by a bump or jolt to the head or body that causes the brain to move rapidly back and forth. Concussions have been on the forefront of sports injuries and the main focus of injury prevention efforts. In 2011, The Massachusetts Department of Public Health issued a new regulation called Head Injuries and Concussions in Extracurricular Athletic Activities. This regulation mandates that all schools in Massachusetts, containing students in 6th grade or above, with extracurricular activities, must have a sports concussion policy in place. Since the regulation is relatively new, collecting and analyzing data from the schools has only just begun.

Methods: Activities included: 1) Organizing data from schools and analyzing it in several different ways 2) Creating and maintaining spreadsheets 3.) Generating maps, graphs and other visual aids 4.) Outreach to superintendents for more information about their concussion policies 5.) Participation in Division Meetings, Press Meetings, and Nationwide COIIN meetings.

Results/Outcomes: The data was analyzed in many different ways for the first time since the regulation was put in place. Data indicates that schools are more compliant with submitting their Year-End concussion reports each year, and that schools from the Metro-West region are better at reporting their concussion data than other regions in Massachusetts. It was also clear that more schools are expanding their concussion policies to cover not only student athletes, but everyone in the school. This data is crucial to figuring out the next steps to take for concussion prevention and programming.

EPIDEMIOLOGY

Name: Lindsey, Dianna

Practicum Site: Health Policy Commission

Location: Boston, MA

Title: Health Policy Commission, Strategic Initiatives Office Summer Fellow

Introduction: Phase 2 of the CHART Investment Program awards over \$60 million to 27 community hospitals across the Commonwealth. Launched in late 2015, the program is approaching 50% completion. CHART Phase-Two partners with 28 different hospital sites, all implementing distinct intervention and care models with the goal of reducing readmissions within their identified target populations. These programs differ from site to site, with each hospital targeting a specific subset of patients. Whereas some target populations are unique to individual hospitals, four main target populations emerged; inpatient high utilizers[1], ED high utilizers[2], inpatient and ED high utilizers combined, and ED behavioral health diagnoses...[1] Inpatient high utilizers are defined as patients with four or more visits within a 12-month period....[2] ED high utilizers are defined as patients with ten or more visits within a 12-month period.

Methods: This analysis sought to determine if a relationship existed between those deemed high utilizers and those with a behavioral health diagnosis, and what trends, if any, were present between the target populations. Insight into the variability and similarities among the four target populations provides a better understanding of the patient populations served in order to drive down preventable costs and avoidable hospitalizations.

Results/Outcomes: This analysis found that there was a statistically significant relationship between high utilizers (inpatient and ED) and behavioral health diagnoses among CHART hospitals within the cumulative target population. Other notable findings include trends in payer types as well as variation among target population groups.

Name: Magid, Leah

Practicum Site: Quintiles Consulting

Location: Cambridge, MA

Title: Advisory Services Intern

Introduction: In response to the opioid epidemic in the US, pharmaceutical companies have begun developing abuse-deterrent opioids to enter the battlefield of this national epidemic. Current abuse-deterrent opioids are available in oral formulations but fentanyl patches, an especially potent opioid with associated risks of fatal overdose, may be a particular target for abuse or diversion. The purpose of this practicum was to evaluate the commercial opportunity for an abuse-deterrent fentanyl patch that is currently in development.

Methods: I synthesized data from secondary research and primary research to understand the overall unmet need for an AD fentanyl patch and to estimate a future preference share for an AD fentanyl patch. This included gathering data from secondary sources to understand the market level data on current opioids prescriptions, incidence and awareness of opioid abuse, and the regulatory pathway for abuse-deterrent opioids. The primary research involved qualitative interviews with key opinion leaders (KOLs), payers, pain management specialists (PMs), and general practitioners (GPs) as well as quantitative surveys with PMs and GPs.

Results/Projected Outcomes: Despite the magnitude of the opioid market in the US, there is very limited use of fentanyl patches and minimal clinical need for an AD fentanyl patch. It is likely that with premium pricing, it would receive restrictive market access on formularies which would lead to low anticipated use of an AD patch in a small sub-population of patch-eligible patients. Future research is needed to explore the potential of a federal mandate on AD technologies.

Name: Ndiwane, Ndindam

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Obstetric and Perinatal Outcomes in US-born and Foreign-born women

Introduction: The objective of this study was to evaluate differences in obstetric and perinatal outcomes among U.S.-born and foreign-born women in Boston, Massachusetts.

Methods: We used a retrospective cohort design to examine the obstetric outcomes of 11,124 immigrant women and US-born women delivering at Boston Medical Center between January 1st 2010 and March 31st 2015. The outcomes measured were preterm delivery (<36 weeks gestational age), Cesarean delivery, low birth weight (less than 2500 g at full-term), NICU admission, hypertensive disorders, premature rupture of membranes (PROM), abnormal glucose tolerance, intrauterine fetal demise (IUFD), and fetal growth restriction (FGR). These pregnancies were analyzed using descriptive statistics and logistic regression.

Results/Outcomes: U.S. women had significantly higher odds to have preterm delivery (OR 1.32, 95% CI: 1.16-1.51), low birth weight (2.13, 1.72-2.63), NICU admission (1.23, 1.09-1.39), hypertensive disorders (1.51, 1.38-1.66), PROM (1.43, 1.18-1.73), and FGR (1.24, 1.11-1.38). U.S. women had significantly lower odds of abnormal glucose tolerance (.84, .74-.96). The rate of Cesarean delivery and IUFD did not significantly differ by maternal country of birth. The effect of maternal country of birth (U.S vs. non-U.S.) on the aforementioned obstetric outcomes did not change after adjusting for maternal age, insurance, tobacco use, race, and ethnicity, however, its association with abnormal glucose tolerance and FGR became non-significant after adjusting for these characteristics. Factors among foreign-born women that contribute to their better obstetric outcomes are their strong social support and dietary practices. There should be further research of these social supports and dietary practices to ensure their preservation and model them in U.S. born populations.

EPIDEMIOLOGY

Name: Newhams, Margaret
Practicum Site: Virginia Department of Health
Location: Virginia Beach, VA
Title: Epidemiology Intern

Introduction: The Virginia Beach Department of Public Health's (VBDPH) mission is to promote healthy behaviors, monitor and prevent disease, and protect the environment to improve the lives of all Virginia Beach (VB) residents. With the rising concerns surrounding Zika, VBDPH has implemented requirements for monitoring the community for possible infection and engaged in numerous community education and outreach actions. My practicum revolved around assisting in the creation and tracking of these response efforts to determine their effectiveness and make changes as needed.

Methods: I worked with the District Epidemiologist, Anna Barringer, to 1) maintain documentation of Zika response efforts in VB, including screenings and community outreach; 2) review screenings and determine if testing is appropriate; 3) create a protocol for VB Mosquito Control upon confirmation of a positive or likely case; 4) generate data on those tested in VB; and 5) plan continued response efforts, including selecting schools based on their proximity to mosquito hotspots for the annual Syndromic Surveillance program.

Results/Outcomes: I constructed multiple spreadsheets, charts, and graphs regarding Zika to be used by VBDPH in determining the future of their response efforts. We found that the majority (61%) of individuals deemed eligible for Zika testing in VB were pregnant women between the ages of 20 and 40 years who traveled to a Zika-affected area. We proposed continuing screenings only in the Maternity and WIC clinics and requested that recent funding be used to provide mosquito repellent to all Maternity Clinic patients.

Name: Okeke, Melvyn
Practicum Site: Kennedy Krieger Institute
Location: Baltimore, MD
Title: Ferguson Fellow

Introduction - Carbapenem-resistant organisms (CROs) have emerged in recent years as a significant public health threat (1). CROs include carbapenem-resistant Enterobacteriaceae (CRE) and carbapenem-resistant Acinetobacter baumannii (CRAB). This analysis compared a population of CRO-positive patients with and without spinal cord injury (SCI) to examine the differences in demographics, underlying health conditions, healthcare-associated risk factors, adverse health outcomes, and infections between the two populations.

Methods - Patients' medical charts were retrospectively reviewed and case report forms were completed as part of the Maryland Emerging Infections Program's Multi-site Gram Negative Surveillance Initiative (MuGSI). Comparisons were made using analysis of variances (ANOVA), chi-squared tests, Fischer's exact tests and multivariate regression.

Results - Of 352 total patients, there were 40 cases of SCI and 312 cases without SCI. There was a significantly higher percentage of males among those with SCI, 32 (80%, $p < .0001$) compared to patients without SCI (45.2%, $p < .0001$). A higher proportion of patients with SCI were African American (78%) compared to patients without SCI (52%). Patients with SCI were significantly more likely to have decubitus ulcers (OR= 8.78 (3.76-20.50), $p < .0001$) and urinary tract problems (OR=4.35, (2.20-8.60), $p < .0001$), and were significantly more likely to have CRAB in their culture (vs. a CRE) (OR=4.12 (2.06-8.23) $p < .001$) compared to patients without SCI. After adjusting for demographics and health status, the association between SCI and CRAB remained significant (OR=2.29 (1.04-5.06), $p = .04$). **Conclusions** - The results of this analysis suggest that there are significant differences between SCI and non-SCI patients who are infected or colonized with CROs.

Name: Osei, Cassandra
Practicum Site: Boston Public Health Commission
Location: Boston, MA
Title: Asthma Prevention and Control Epidemiology Intern

Introduction: Boston Public Health Commission's Asthma Prevention and Control program focuses on the use of data to enhance systems that support prevention and control of asthma among Boston residents and beyond. There are three projects and programs connected to data collection through our work with the Boston Asthma Home Visit Collaborative (BAHVC). BPHC convenes member asthma home visit programs from Boston Children's Hospital, Tufts Medical Center, Partners Asthma Center and Neighborhood Health Plan. BAHVC facilitates 1) the development of standards for asthma home visit protocols, 2) standardized training of asthma Community Health Workers (CHWs) statewide, and 3) pooling of data to determine process and outcome measures to justify the value of these home visits and the CHWs' role. Effective data analysis allows us to determine the impact of these visits and provide a strong foundation for our work with payors to promote reimbursement of these specific visits.

Methods: I gather, clean, and compile asthma home visit data from collaborative partners and conduct initial analysis related to asthma reduction and improved asthma outcomes, for quality improvement purposes for the program. The data is shared with Harvard T.H Chan School of Public Health for further analysis.

Results/Outcomes: The analyses help BPHC develop reports that evaluate the effectiveness of home visit programs and provide relevant data towards the Boston High-risk Asthma Program Pathway in Youth project. My improvements to the REDCap data collection tool provide more efficient surveys that CHWs can use during home visits.

EPIDEMIOLOGY

Name: Padilla, Brad
Practicum Site: Aldatu Biosciences
Location: Boston, MA
Title: Business Development Intern

Introduction: Aldatu is a Cambridge-based startup dedicated to developing affordable drug resistance tests for low- and middle-income countries (LMICs), using a technology called PANDAA™ (Pan-Degenerate Amplification and Adaptation). Aldatu aims to use PANDAA™ to help patients in LMICs receive the most appropriate medications for a variety of infectious diseases, beginning with HIV. I assisted Aldatu in assessing new markets, helping Aldatu to plan accordingly for the commercialization of PANDAA™.

Methods: I worked with the CEO and CSO on multiple projects where I was able to: 1) evaluate the different regulatory pathways available for Aldatu's products to enter markets in sub-Saharan Africa; 2) provide a framework of the diagnostic landscapes for both Lyme disease (LD) and multidrug-resistant tuberculosis (MDR-TB), collecting data on the worldwide incidence and prevalence of LD and MDR-TB, respectively; 3) create materials for a conference on global health threats, detailing the value of the PANDAA technology for stakeholders in LMICs.

Results/Projected Results: I presented my findings to the co-founders at Aldatu, confirming through the use of epidemiological data and statistics that Lyme disease and MDR-TB drug resistance tests are viable prospective applications of the PANDAA technology. Additionally, my research and review of literature assisted Aldatu in determining the most optimal regulatory pathway available for in vitro diagnostics (IVDs) like PANDAA. Lastly, I created materials for Aldatu to use at a conference for combatting global health threats in Africa, tailoring each handout to a target audience,

Name: Paruk, Jennifer
Practicum Site: Northeastern University
Location: Boston, MA
Title: Research assistant

Introduction: The commercial sexual exploitation of children (CSEC) is a public health problem. The overall goal of the Massachusetts Child Welfare Trafficking Grant (CWTG) is to develop sustainable methods within the state's child welfare system sustainable methods for preventing minor trafficking, identifying trafficking victims, and connecting them to services.

Methods: A pilot database was designed and edited for multidisciplinary teams (MDTs), using REDCap (Research Electronic Data Capture). REDCap is a secure, online system that can be used for managing surveys and databases.

Results/Outcomes: Several REDCap databases were created and edited. Several reports within the database were also created to help MDTs identify trafficking victims within the child welfare system, provide case coordination, and track referrals and outcomes.

Name: Patel, Hetal
Practicum Site: Tufts Center for the Study of Drug Development
Location: Boston, MA
Title: Research Intern

Introduction: The scope of my practicum at the Tufts Center for the Study of Drug Development (TCSDD) consisted of updating and expanding the TCSDD database on medical countermeasures (MCMs) for pandemic infectious diseases (ID). United States legislation since the early 2000s has provided incentives to promote growth of the biodefense and public health ID preparedness sub-sectors. TCSDD published Outlook 2015, which showed how such incentives may impact trends for the Ebola Research and Development (R&D) field. My database will hopefully help do the same for the Zika virus.

Methods: Each activity took approximately 1.5 months to complete. The first part consisted of updating the TCSDD MCMs database for 2012-2014 pandemic ID projects to reflect the current status of clinical trials that began or were taking place at the time worldwide. The latter part of the project consisted of developing my own database for ID countermeasures from 2014 through 2016, paying special attention to R&D involving Zika virus. These activities were vastly aided by a database to which TCSDD leases access called Cortellis.

Results/Outcomes: This updated database will help paint a better picture of where the world is struggling and needs resources in terms of public health priorities for critical areas of drug development. It will allow us to track the progress for developing R&D capacity in the MCMs sector as well as look at demographics of the companies performing clinical trials. The results will have an impact globally on both political and economic levels.

EPIDEMIOLOGY

Name: Paul, Michelle

Practicum Site: Massachusetts General Hospital - Center for Global Health

Location: Boston, MA

Title: Research Assistant for Resistance Testing Versus Adherence Support for Management of Patients with Virologic Failure on First-Line Antiretroviral Therapy in sub-Saharan Africa (REVAMP) Study.

Introduction: As a research assistant at the Center for Global Health, I worked with an international team of researchers based at MGH, Uganda and South Africa. I assisted researchers in a trial that looks at management of patients presenting with virologic failure. As the current standard of care is adherence support alone, we examined whether the addition of routine resistance testing to guide management of virologic failure improves clinical outcomes and reduces costs for patients.

Method: The purpose of the practicum was to assist the study with documentation, organization, and procurement. I worked with the Principal Investigator to: 1) write and edit a journal article describing the study, 2) program a REDCap database for data collection through tablets in the field, 3) create official documentation such as IRB submission, study protocols, lab agreements, and 4) support supply procurement.

Results/Projected Results: Documents created will be used by the researchers for the duration of the study. The REDCap programmed tablets will be used for data collection in the field throughout the study and are a key item for completion of the study.

Name: Pestine, Ella

Practicum Site: Boston Public Health Commission

Location: Boston, MA

Title: Project Management Intern

Introduction: The Office of Public Health Preparedness (OPHP) within the Boston Public Health Commission is the City of Boston's lead agency for Emergency Support Function (ESF) 8 - Public Health and Medical. In this role, OPHP is tasked with supporting events within the City of Boston that result in an excess burden on public health and medical functions within the city including hospitals, community health centers, and long term care facilities. OPHP leads the coordination and response to such events, yet there are limited project management tools utilized by OPHP throughout the planning process for these events. This practicum focused on project management for OPHP's planning and operations for the Boston Marathon and July 4th Celebrations.

Methods: I developed Standard Operating Guides (SOGs) to describe the objectives and rationale for all Marathon and July 4th-related activities within OPHP. I critically thought about the best way to organize information and developed annex documents and shared folders for OPHP staff. In addition to these SOGs, I also created a Smartsheet project timeline. Within Smartsheet, I assigned specific tasks to OPHP staff, produced deadlines and milestones within the planning process, and ensured that all event-related tasks were included. **Projected Results:** The projected results of this practicum include more streamlined planning for large-scale events that place a burden on the public health and healthcare systems within the City of Boston. As new staff members join OPHP and as roles and responsibilities change, the deliverables from this practicum will continue to guide planning and response practices.

Name: Runels, Tessa

Practicum Site: Boston University School of Medicine

Location: Boston, MA

Title: Student Researcher

Introduction: The Boston ARCH Cohort is part of the Uganda Russia Boston Alcohol Network for Alcohol Research Collaboration on HIV/AIDS (URBAN ARCH) Consortium and consists of 250 HIV-infected adults with current substance dependence or ever injection drug use. This cohort is considered high risk for tuberculosis infection and offers a rare opportunity to better assess the cascade of care for latent tuberculosis infections (LTBI) domestically. The purpose of this project was to: 1) quantify the percentage of HIV-infected alcohol drinkers who complete the cascade of care (i.e., testing, referral, treatment initiation, and treatment completion) and 2) determine the proportion that develop an increase in liver transaminases while on LTBI therapy.

Methods: A comprehensive literature review was conducted to identify variables of interest for LTBI domestically. Afterwards, data was collected via manual chart abstraction and entered into a database that was built and maintained in REDCap. Participant data collected during chart abstraction was merged with existing variables of interest from the ongoing Boston ARCH study. Descriptive statistics were calculated and multivariable analysis was performed to assess how covariates such as level of alcohol intake, country of birth, and history of incarceration affect testing and treatment for LTBI.

Results/Outcomes: We hypothesize that a significant proportion of subjects will drop out at each stage of the cascade, leading to a small fraction successfully completing LTBI prophylaxis. We also anticipate that alcohol drinkers will not have significantly higher rates of liver toxicity due to LTBI therapy than what is reported in the general population.

EPIDEMIOLOGY

Name: Saag, Lauren
Practicum Site: University of Alabama at Birmingham
Location: Birmingham, AL
Title: Epidemiology Intern

Introduction: Mental health comorbidities (MHC) like depression and substance abuse reduce retention in care leading to poor HIV health outcomes. Optimizing care to address such MHC, however, leads to improved HIV retention and clinical outcomes. The objective of this study was to examine the association between mental health service utilization (MHU) and retention in care among HIV-positive patients with MHC.

Methods: A retrospective follow-up study was conducted using an electronic database of HIV-infected patients receiving care at a university-affiliated HIV Clinic between January 2007 and December 2013. Depression, alcohol and drug use were assessed using PHQ-9, AUDIT-C, and ASSIST questionnaires, respectively. Retention in care was defined using the HRSA-HAB measure of retention: a patient was "retained" if they attended ≥ 2 primary care appointments greater than 90 days apart in 12 months. MHU was defined as the number of psychology, psychiatry and substance abuse counseling appointments attended in the 1st year of clinic utilization.

Results/Outcomes: 743 patients were included. Public insurance (OR=0.34, $p < 0.01$) and ≥ 3 MHU (OR=4.53, $p < 0.01$) were associated with retention in care. In multivariate modeling, age (>45 years, OR 1.6, $p = 0.14$), insurance (public OR=0.3, $p < 0.01$; no insurance OR=0.4, $p < 0.01$), 3 MHC (OR=0.3, $P=0.03$) and ≥ 3 MHU (OR=6.0, $p < 0.01$) were associated with retention suggesting that multiple MHC is associated with decreased retention and that persons living with HIV (PLWH) who have ≥ 3 MHU have significantly improved retention in care. Mental health services have the potential to improve retention in all PLWH.

Name: Sandhu, Kayleigh
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Research Assistant

Introduction: The study is a retrospective cohort analysis of all preterm deliveries (16.0 - 36.9 wks GA) that occurred at Boston Medical Center from July 1, 2014 to March 31, 2016 (n=412) with a primary outcome of spontaneous or indicated preterm birth. The study's main purpose is to identify the rate, indication, and severity of preterm birth at BMC as an urban safety net hospital, to set the framework for effective strategies for prevention of preterm births at BMC.

Methods: I evaluated the risk factors of interest and their impact on indicated and spontaneous preterm births using the chi-square test of independence within SAS. I created a Table 1 with the findings that was submitted with the abstract for publication to the Society of Maternal-Fetal Medicine.

Results/Outcomes: Data analyses revealed an overall rate of preterm birth of 9.8% during the study period. Of these, 40.3% were indicated (n=166) and 59.7% were spontaneous (n=246). Hypertensive disease as a risk factor showed the highest prevalence in indicated preterm births (59.4%). Women classified as obese (BMI > 30) (OR 0.62, 95% CI 0.41-0.93) and diabetic (OR 2.08 95% CI 1.21-3.58) experienced more indicated preterm births than spontaneous. Severity of prematurity was significantly different between spontaneous (11.38%) and indicated (3.61%) preterm births (OR 0.29 95% CI 0.12-0.72). Overall indicated preterm birth at BMC occurred at a rate greater than the national prevalence (30-35%), indicating that prevention strategies are needed and appropriate.

Name: Seliga, Nicholas
Practicum Site: Boston Public Health Commission
Location: Boston, MA
Title: Boston EMS Data Analyst

Introduction: Employee safety is an important public health issue due not only to its impact on employee health, but also to its impact on the fragile economy. When an employee is injured and misses significant time from work, he/she typically enrolls in a Worker's Compensation Program to collect lost wages. This places a financial burden on the employer, and a burden on the health of other workers by compensating for the missing employee. For these reasons it is key to monitor and reduce employee injuries. Thus, the purpose of my practicum is to define injury trends and causes in Boston EMS workers.

Methods: The data for my practicum consisted of Workers Compensation claims from Boston EMS EMTs and Paramedics from January 2003-May 2016. I used Microsoft Excel to conduct the data analysis, which consisted of cleaning the data, and creating variables to express trends in the data. I conducted analyses for yearly trends in injury types, and multiple demographic characteristics such as age, gender, and duration of employment.

Results/Outcomes: The analysis highlighted trends such as an increased number of injuries over time, 174 in 2003 vs. 243 in 2015, while the number of injuries per transport decreased, 3.72 injuries/1000 transports in 2005 vs. 2.84 injuries/1000 transports, in the Boston EMS employees. These results will be used to help improve training methods for new recruits and existing employees. They will also be able to help identify equipment (such as manual lift stretchers) and other risk factors that are associated with higher rates of injury.

EPIDEMIOLOGY

Name: Thomas, Claire
Practicum Site: Boston University Medical Center
Location: Boston, MA
Title: Clinical Trials Research Assistant

Introduction: The BU Alzheimer's Disease Center (ADC) is one of 29 centers in the US funded by NIH to advance Alzheimer's disease research. Alzheimer's disease is a major public health problem in America due to the rising age of baby boomers and the increased costs of Alzheimer's care as the population lifespan increases. The ADC currently is involved in 5 clinical trials for AD focusing on prevention, mild cognitive impairment, or mild or moderate AD.

Methods: I became certified in administering cognitive tests for all clinical trials at the ADC. I learned to coordinate a successful clinical trial with the clinical trial coordinators through organization, scheduling, management of participants, attention to detail and collection of accurate and consistent data. I created databases in Filemaker to organize participant information, appointment scheduling, and communication and edited existing databases to make them more efficient.

Results/Outcomes: The primary outcome of this practicum is the data collected through cognitive testing for all clinical trials. Others include the ability to coordinate double-blind placebo controlled randomized clinical trials to produce accurate data about a drug's efficiency and efficacy and the ability to interact with, inform, and calm participants at study visits. Cognitive testing data will be used by principal investigators to determine study drug safety and efficiency for Alzheimer's disease treatment. This will hopefully lead to a new drug on the market for patients to prevent and reduce the burden of disease.

Name: Van Ells, Shannon
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Literature Review

Introduction: This year, Massachusetts is voting on the legalization of recreational marijuana despite the fact that it is a Schedule I controlled substance. This practicum was intended to inform a potential grant proposal for a prospective cohort study on the effects of marijuana on neurocognitive and mental health outcomes among African American young adults in the Boston area.

Methods: Under the direction of one of the principal investigators, a literature review was conducted on the current research on the effects of marijuana on neurocognitive performance and mental health. Confounders such as violence, potency of marijuana, ethnicity, prenatal exposure to substances, blood lead levels, and the co-occurrence of alcohol and tobacco were also considered in this review.

Results/Projected Outcome: Most studies on the effects of marijuana on neurocognitive performance were cross-sectional, and therefore cannot determine causality. Of the cohort studies that looked at marijuana as an exposure, most enrolled Caucasian and Hispanic participants and therefore may not be generalizable to those who are most likely to be affected by drug law enforcement due to systematic racism. Additionally, these studies did not consider many of the aforementioned confounders. This literature review will be used to inform a NIH grant proposal.

Name: Vedire, Sruthi
Practicum Site: Beth Israel Deaconess Medical Center
Location: Boston, MA
Title: Research student at Beth Israel Deaconess Medical Center

Introduction: There is evidence from previous studies that residential ambient environmental exposures have been associated with cardiovascular morbidity and mortality. The objective of the air pollution and green space study is to investigate the impact of residential green space on 30 day readmission and 30 day mortality following cardiovascular and pulmonary events over 5 year period at BIDMC.

Methods: I conducted literature-based reviews on the effects of air pollution on cognitive outcomes in children and elderly population, and interventions to reduce air pollution. Later, I worked on the management and analysis of study data using SAS. The work involved: 1) Merging hospital data which has 42,000 observations with green space data and geocoded census data 2) Cleaning of the final dataset 3) Preliminary analysis to know about predictors of 30 day mortality following hospitalization for cardiovascular and pulmonary events. I also attended biostatistics consultations and regular meetings in which investigators of other air pollution studies met to discuss their progress.

Results: My projected results include: 1) A table with baseline characteristics of patients admitted to hospital for cardiovascular and pulmonary events including average green space measures for this population 2) Predictors of 30 day mortality following hospitalization for cardiovascular and pulmonary events at BIDMC during 2010-2014. The findings from this study have the capacity to transform future urban planning and policy by identifying cost-effective methods for assessing the impact of environmental exposures on hospitalizations and readmissions and to improve the standard for quality of care and recommendations following discharge.

EPIDEMIOLOGY

Name: Vetter, Joy

Practicum Site: Massachusetts Department of Public Health

Location: Boston, MA

Title: Combating the Opioid Epidemic: Ashland Coalition Employs a Multifaceted Preventative Approach

Introduction: The Massachusetts Department of Public Health has determined the number of annual deaths from opioid overdose doubled to an estimated 1,531 deaths between 2012 and 2015, with Ashland only reporting an estimated 5 deaths. To keep these numbers low, Ashland's Decisions at Every Turn Coalition started an Opioid Prevention Working Group to prevent youth opioid use through a strategy of prevention, intervention, and treatment initiatives. This project focused on three prevention tasks: 1) An environmental scan of local pharmacies that offer naloxone (an antidote for opioid overdose), 2) development of education materials for pharmacy distribution, and 3) development of prevention materials for teens and parents.

Methods: The pharmacy survey collected data on the availability of naloxone, staff training on naloxone distribution and stigma reduction efforts, and the interest in education materials for customers. An educational flyer draft with opioid abuse prevention tips was presented for feedback. Prevention flyers for teens and parents were created using social and behavioral theories.

Results/Outcomes: The environmental scan found that naloxone is rarely sold at all four pharmacy locations, but unveiled ways the Coalition can partner with pharmacies on prevention and education efforts. The data will be integrated into a future community assessment to further develop prevention strategies for opioid abuse. The educational flyer will be edited to comply with pharmacy requirements and then distributed with opioid prescriptions at interested pharmacy locations. Teen and parent prevention flyers will require review from focus groups and will then be used at events scheduled for fall of 2016.

Name: Viswanathan, Anisha

Practicum Site: Massachusetts Department of Public Health

Location: Boston, MA

Title: Community Based Assessment of Substance Use in the Elderly

Introduction: The health departments of Dartmouth, Marion and Rochester have been collaborating to address the problem of substance use in their communities, focusing on youth and available population data. According to the Executive Office of Elder Affairs Massachusetts, the elderly population (over 65 years) is 5182 (Dartmouth), 1094 (Marion) and 568 (Rochester). The aim of this project is to assess substance use in the elderly in these communities.

Methods: Death records related to substance use were reviewed from 2010-16 in Dartmouth and Marion. An 11-question survey was formulated to investigate the lifetime / recent use of substances in the elder population and to determine the perception of drugs/other substance use in their communities. Surveys were sent out as per the Council of Aging recommendation. The responses were collected and analyzed with SAS and Excel.

Results/Outcomes: A review of death records from 2010-16 revealed that 2 of 8 substance use related deaths in Marion and 30 of 78 substance use related deaths in Dartmouth consisted of older population. Out of 791 surveys mailed in Marion, 126 responses were received and 54 responses were collected by distributing the surveys in person in Dartmouth. Several repetitions in the survey necessitated a modification of the survey with respect to all three towns. This assessment has been a constantly evolving process; with modifications being done along its course to obtain desired results. The data and results from this assessment will facilitate further investigation into the problem of substance use in the elderly.

Name: Wacks, Rachel

Practicum Site: Boston University School of Public Health (BUSPH)

Location: Boston, MA

Title: Research Assistant

Introduction: This practicum entailed desk research to examine the intersection of gender-based violence and the 2013-2015 West African Ebola epidemic. As a member of a three-person team, we are writing a chapter in the forthcoming book, *Pregnant in the Time of Ebola: Women and Their Children in the 2013-2015 West African Epidemic*. This chapter, tentatively titled, "Gender Based Violence and Teenage Pregnancy: Neglected Consequences of the 2013/2015 Ebola Outbreak," will examine how the various responses to Ebola, including quarantines, school closings, and other public health safety measures designed to help keep the virus from spreading played a key role in the rise of gender-based violence against women and girls.

Methods: Literature reviews focusing on historic (conflict and post-conflict) and Ebola-specific gender-based violence in Liberia, Sierra Leone, and Guinea was completed. Extensive research was done to obtain reports of gender-based violence in West Africa during the Ebola epidemic, with particular emphasis on local news reports and international non-governmental organization reports.

Results/Outcomes: Our research indicates that many of the public health measures taken to keep Ebola from spreading placed women and girls at greater risk of experiencing gender-based violence. During the epidemic, the number of rapes and teenage pregnancies increased. Existing sociocultural norms, and history of violent civil war, further victimized these women and girls after the epidemic through strict rules, particularly in education. It is our hope that this research will serve as a guide to help protect the most vulnerable populations in future epidemics globally.

GLOBAL HEALTH

Name: Alattas, Maha

Practicum Site: Dana Farber Cancer Institute

Location: Boston, MA

Title: Exploring The Referral Mechanism at The New Patients Clinic at Children's Cancer Hospital 57357 in Cairo

Introduction: Filter clinics at specialized oncology centers serve as a mechanism to screen patients' admission eligibility and streamline the intake process. This project studies the referral mechanism to the screening clinic at 57357 hospital in Cairo, Egypt in order to develop an appropriate filtering and referral tool to prioritize pediatric oncology patients and ensure safe care delivery. Identifying non-oncology patients and examining how and why patients are referred to CCHE will help decrease the filter clinic's operational and financial burden.

Methods: This is a single site qualitative study; Data were collected through in depth interviews using a structured interview guide. A sample size of 100 parents were randomly selected and interviewed. A focus group with a sample size of 6 was conducted as well. We also observed and documented the steps throughout the filtering process.

Results/Projected Outcomes: Patients were mostly coming from Ash Sharqya area (12%) followed by Cairo and Giza, (11%) respectively. Most patients (66%) were referred by doctors; 51.5% had a written referral and 48.5% were referred verbally. total of 28 patients were referred from private clinics, 6 from Alzagazeeg public hospital. Thirty-four percent arrive as self-referred, (all of whom had heard about CCHE from frequent TV ads). Study findings will contribute to targeted decision-making to optimize operations at the filter clinic and improve overall patient experience. At the end of the survey, preliminary recommendations were suggested and discussed. Study findings will be reviewed for further research.

Name: Albanese, Rebecca

Practicum Site: Brookline-Quezelquague, Nicaragua

Location: Brookline, MA

Title: Childhood Nutrition and Adolescent Sexual Health in Quezalguage, Nicaragua

Introduction: Quezalguague, Nicaragua has been a sister city to Brookline, Massachusetts for over 25 years. Brookline has funded various health and education projects. This year the primary study focused on understanding the factors contributing to increased incidence of malnourished children under age six in villages surrounding Quezalguague. Additionally, we developed a curriculum and implemented sexual education classes for adolescents in the villages to increase knowledge and promote healthy behaviors.

Methods: We created, implemented, and analyzed a survey of childhood malnutrition in small rural villages around Quezalguague using a case-control style study design. One hundred sixty-eight families in the community participated. We created and implemented sex education materials in two grades from three community schools, using pre- and post-tests to evaluate. We met with key stakeholders including leaders in the local Ministry of Health's Health Center and Health Posts, municipal government officials, and faculty in Nicaragua's national medical school. We provided stakeholders preliminary and final reports that detailed key findings and recommendations.

Results/Outcomes: We found that the presence of a family garden, family perception of the child to having a persistent illness and food frequency score were correlated with malnutrition. Recommendations provided in a report to the Quezalguague Health Center included the creation of breastfeeding/mother's groups, implementing a defined protocol for identifying and treating malnourished children, increasing health center coordination with town hall, beginning a community garden and celebrating International Health Day as a community to improve knowledge and health. The sexual education resources were provided to school teachers.

Name: Anderson, Alexis

Practicum Site: Boston University Center for Global Health and Development SIAPS

Location: Boston, MA

Title: Research Assistant in Systems for Improved Access to Pharmaceutical Services (SIAPS) Project (funded through MSH, USAID)

Introduction: As part of the SIAPS project at the Department of Global Health, I created an excel-based data collection workbook that will be piloted this fall to gather information from eight countries about their pharmaceutical systems. The goal of the project is to measure pharmaceutical system strengthening, and to implement strategies to create coordinated and sustainable improvements in pharmaceutical systems.

Methods: I worked with the Principle Investigators of the SIAPS project 1) to develop a data collection workbook for the research project which includes a data collection section as well as a built-in glossary section 2) to assemble and help organize a team of two other students to pre-fill glossary information into the workbook; 3) to meet with MSH to review the tool and selected indicators.

Results/Projected Outcomes: The development of the workbook tool, which will be turned into an online platform by MSH to collect information on pharmaceutical system performance from eight countries this fall. This pharmaceutical system strengthening project aims to identify and implement strategies and actions that achieve coordinated and sustainable improvements in the critical components of pharmaceutical systems.

GLOBAL HEALTH

Name: Aung, Mun Pan

Practicum Site: Boston University Family Medicine Global Health Collaborative

Location: Boston, MA

Title: Student Intern for GHC Myanmar Internship Program

Introduction: Boston University Global Health Collaborative (BUGHC) is committed to the development and implementation of locally sustainable models of primary care around the world. BUGHC is currently collaborating with Myanmar Academy of Family Physicians (MAFP) with the financial support from the Shing Kong Life Foundation (SKLF) on Primary Care System reform in Myanmar. According to current medical education system in Myanmar, there is no clinical training for the doctors after completing the medical school and no strong set of medical specialty associations in Myanmar. The collaboration between BUGHC and MAFP aims to establish Family Medicine as a specialty through establishing a flagship organization (MAFP), developing clinical teaching sites, developing a curriculum for FM and implementing the curriculum as a part of medical school education

Methods: I conducted literature research on Myanmar Family Medicine and Medical Education System and compiled the research and data for publication. Created a budget for the Myanmar General Practitioner Empowerment Project (MGPEP) Conference, spearheading communication with venues and language interpretation service agencies. I researched Myanmar Medical Associations (MMA) throughout the world and compiled the information into a database. I assisted in writing a grant proposal.

Results/Outcomes: It is very important to gain support from Myanmar Ministry of Health and Sports (MOH) to establish Family Medicine as a specialty. MGPEP conference will be a good opportunity for BUGHC and MAFP to present the collaboration project to MOH and ask for cooperation. Overseas MMA can play crucial role in providing financial and professional support to MAFP for Myanmar Medical Education System reform.

Name: Belanus, Emily

Practicum Site: Mildmay Uganda

Location: Lweza, Uganda

Title: Evaluating the Effectiveness of the Wisepill among Pregnant and Postpartum women in Uganda

Introduction: Mildmay is Uganda's largest HIV care and treatment center. Using a family-centered approach, they provide quality and sustainable prevention, care and treatment of HIV and other health priorities as well as engage in training, education and research. Designed at Boston University in collaboration with Mildmay, The WiseMama Study looks to gain a greater understanding of ART retention and adherence in Uganda among pregnant and post-partum women. The study involves 1) the assessment of the feasibility and acceptability of Wisepill, an innovative pill container that captures real-time data on ART adherence, among pregnant and post-partum women (PPPW) in Uganda; 2) the generation of preliminary effectiveness data of a 2-step feedback intervention on retention in care, ART adherence, and clinical outcomes; and 3) the investigation of both patient and provider perspectives on barriers and facilitators to retention in care and adherence to ART.

Methods: Over the course of six weeks, I worked with the study team to: 1) assist with data management; 2) develop a database to track participant retention; 3) complete a quality check of laboratory data; and 4) generate a record of Wisepill use.

Results/Outcomes: At the completion of the practicum, I provided the Boston team with the necessary data for timely analysis, two databases to input and manage the data, a database to efficiently track and improve participant retention, a record of Wisepill use for budgeting needs, and a quality check of laboratory data with suggestions for improvement.

Name: Bleicher, Sarah

Practicum Site: University of Massachusetts Medical School

Location: Charlestown, MA

Title: Are we ready? An analysis of community health center emergency preparedness

Introduction: Community health centers (CHCs) have the potential to be a powerful tool, but are often under-utilized. CHCs can be particularly useful in emergencies and disasters. As such, emergency preparedness is imperative in order to smoothly continue operations and to serve as many patients as possible, particularly during a surge. The Shriver Center created a desktop toolkit for CHCs to objectively gauge their preparedness levels and to give them standards to work toward. CHCs see a variety of underserved populations (including the elderly, less mobile populations, poor and low income people, minorities, the homeless, mentally ill, adolescents, migrants and seasonal farm workers, people with physical disabilities, etc.) and thus are uniquely poised to help these populations in disaster settings.

Methods: During my practicum, I conducted two separate literature reviews. The first was an assessment of CHC preparedness, the impacts of emergencies and disasters on CHCs, and the effects of disasters on vulnerable populations and how CHCs have responded. The second literature review examined existing resources for emergency preparedness on topics relating to pharmacies, CHCs, mass prophylaxis, emergency dispensing sites (EDS), and laboratories.

Results/Outcomes: The literature indicates that CHCs often lack funding, collaboration, better information technology, planning time, and resources to be fully prepared for maximum impact. I condensed my research and contributed my results as indicators for the CHC preparedness toolkit so that CHCs will be best prepared in an emergency or disaster and allow their populations to be as resilient as possible.

GLOBAL HEALTH

Name: Boadu Jr., Samuel

Practicum Site: The Christian Health Association of Ghana

Location: Accra, Ghana

Title: Financial Sustainability and the Progression of Ghanaian Healthcare

Introduction: The Christian Health Association of Ghana is currently a network of 291 health facilities owned and operated by 25 different Christian Church Denominations and affiliates. The organization prides itself on serving in the most remote areas in fulfillment of the Healing Ministry of Jesus Christ. CHAG was the originator of the community based health scheme in the 1990's, which directly preceded and served as the precedent for the existing Ghana National Health Insurance Scheme (NHIS). Ghana has recently been deemed a lower middle-income country, which limits outside funding and resources to finance health services and strategies to attain Sustainable Development Goals.

Methods: Ghana is in a compromising position to either find innovative and sustainable ways to finance the healthcare system, or institute cuts and limitations to services offered. In an effort to reform the current Scheme, a NHIS reform proposal was drafted that included the incorporation of copays, family planning, Public Health interventions, and "Family Primary Care Visits" as means to reduce cost. A Conference was held with the theme "Financial Sustainability of CHAG at all Levels, How Can We Do Things Differently?" in order to gauge and include the ideas of stakeholders in the proposal.

Results/Projected Outcomes: The reform proposal will be submitted to NHIS upon more data collection on the impact of these interventions. Lastly, with CHAG approaching its 50th year of service a needs assessment, evaluation, and implementation plan were presented with recommendations to increase the capacity of organizations services for the next 50 years to come.

Name: Boskovic, Nikolina

Practicum Site: UNICEF Supply Division

Location: Nordhavn, Denmark

Title: Intern/Secretariat at People that Deliver Initiative (UNICEF Supply Division)

Introduction: People that Deliver (PtD) is an initiative dedicated to improving supply chain workforce in developing countries, consisting of 80 organizations. PtD's goal is to improve the demand for and retention of a qualified supply chain workforce, the availability of qualified supply chain personnel, and the general obstacles and opportunities for advancing workforce excellence in health supply chain management. This practicum examined the enabling environment of human resources for supply chain management in order to support a strategic workshop re-visiting PtD's vision, mission statements and strategic goals.

Methods: I worked with the Executive Manager to conduct a qualitative analysis consisting of 17 interviews to inform discussions at the annual PtD Board meeting characterizing unmet needs in human resources for supply chain management. The objectives of the qualitative analysis were: 1) to evaluate how PtD's current vision and mission supports beneficiaries' initiatives, 2) assess how PtD's strategic goals provide value to beneficiaries, 3) to update current vision and strategic goals.

Results/Outcomes: The three key themes that emerged from the analysis were presented to the Board, who utilized the results in discussions to characterize PtD's primary beneficiaries, and their (unmet) needs and gaps. The newly drafted vision, mission, and strategic goals were sent to the Board for approval.

Name: Clark, Samantha

Practicum Site: Brookline-Quezalguaque, Nicaragua

Location: Nicaragua

Title: Public Health Student Researcher and Implementer

Introduction: Brookline and Quezalguaque, Nicaragua have been Sister Cities for 29 years. Brookline funds different projects to improve health in Quezalguaque. For our practicum, our main focus was understanding the factors of malnutrition in children under six years old in the small rural villages around Quezalguaque. Additionally, we developed a curriculum and implemented sexual education classes for seventh through tenth grades to address the high regional teen pregnancy rate.

Methods: We created, implemented, and analyzed a survey of childhood malnutrition using a case-control study design. 168 families in the community participated in the survey. We created, implemented, and evaluated sex education classes. Over 140 students were given pre and post-tests. We compared the pre and post-tests to see if students learned from our classes. We met with key stakeholders including leaders in the local health center and local government officials. After analyzing the data, we provided reports to these stakeholders on our findings and recommendations.

Results/Outcomes: There was a significant correlation between malnourished cases and the presence of a household garden, food consumption score, and presence of a persistent illness. We recommended more coordination between the health center and mayor's office in regards to a malnourished child protocol, creating a community garden, implementing a community day of health fair, and starting a breastfeeding and mothers group to provide support and advice to mothers. We found no significant difference in knowledge between the pre and post-test scores for the charlas. We provided our curriculum to school teachers.

GLOBAL HEALTH

Name: Coleman, Chad
Practicum Site: Boston University School of Medicine
Location: Boston, MA
Title: Embedding Psychiatric Services Within OBGYN at Boston Medical Center

Introduction: Research shows that approximately 18% of women experience depression during pregnancy. In an urban, low-income patient population like Boston Medical Center (BMC), this is expected to be higher. Also, the World Health Organization estimates that major depression will rank second in disease burden around the world in 2020. In order to address psychiatric problems within OBGYN services at BMC, I worked with the BMC and BUSM Departments of Psychiatry to conduct a 12-month retrospective medical record review of women who delivered at BMC. The goal of the study is to understand the landscape of psychiatric problems amongst OBGYN patients, as well as the rate of referral to further psychiatric services, in order to properly establish an embedded psychiatry service in OBGYN.

Methods: I conducted data analyses to understand the frequencies of psychiatric outcomes (anxiety, bipolar disorder, depression, PTSD, schizophrenia, and other psychiatric diagnoses) amongst the patient population, frequencies of depression screening tests (PHQ-2 and PHQ-9), timing of exams relative to delivery, and frequencies of referrals to psychiatric follow-up (case management, behavioral medicine, and psychiatry). Also, I conducted literature reviews of mental health and screening in pregnancy.

Results/Outcomes: Amongst the 2,615 OBGYN patients who delivered at BMC, approximately 12.7% of these women received any form of depression screening pre- and post-partum, with 71.6% of screening exams occurring post-partum. Also, 22.98% of patients who delivered at BMC presented with any psychiatric problem, with depression being the most frequent diagnosis. Finally, four patients were referred to case management, 18 to behavioral medicine, and 20 to psychiatry.

Name: Davis, Alexandra
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Health System Strengthening Intern

Introduction: Eighty-three percent of deliveries in the Leribe district of Lesotho occur at health facilities. The health centers of Leribe were equipped in 2013 to handle deliveries, and the staff of 16 out of 25 health centers received midwifery training from the Lesotho-Boston Health Alliance. Despite recent renovations and improvements, approximately 16% of women in Leribe deliver at home, facing the risk of obstetric complications, as well as maternal and fetal death. The purpose of this root cause analysis is to identify factors that motivate women to forgo delivering at health institutions in favor of delivering at home.

Methods: This mixed-methods study took place in the Leribe district of Lesotho and used convenience sampling to collect qualitative and quantitative data. In-depth interviews were conducted with recently delivered women from catchment areas of four health centers. In addition, we interviewed the women's family members, village health workers, traditional birth attendants, and nurse-midwives who may have influenced the decision to deliver at home.

Results/Outcomes: Of the fifty-two women we interviewed, 65% delivered at home. Lack of knowledge of delivery dates leading to unexpected labor was a major contributing factor to home deliveries. Qualitative findings revealed that women prefer facility-based deliveries as opposed to home-based deliveries. Major barriers of having a facility delivery included the poor condition of roads to the health centers, lack of access to transportation, and the poor treatment of women by nurse-midwives.

Name: Diallo, Kadiatou
Practicum Site: Institut Mère-Enfant de Kaolack (IMEK)
Location: Boston, MA
Title: Violence against Women and Children in Kaolack, Senegal

Introduction: The Mother-Child Institute of Kaolack, known as l'Institut Mère-Enfant de Kaolack (IMEK), is a non-profit healthcare organization that has established clinics throughout the city of Kaolack, Senegal. As IMEK is well-connected with the communities it serves, the organization has acknowledged the presence of gender-based violence (GBV) and violence against children. The objective of my practicum was to conduct a needs assessment that would provide IMEK with a better understanding of the magnitude and types of GBV and violence against children in Kaolack, including recommendations for strengthening response to survivors of these forms of violence.

Methods: The assessment included: 1) a review of literature utilizing case studies and recent reports from USAID, 2) development of qualitative research questions for data collection, 3) utilization of research questions to conduct 12 key informant interviews (KIIs) with health care workers, representatives from sectors of local government and NGOs, and community health workers, 4) conducting three focus group discussion (FGDs) with women from communities surrounding the IMEK clinics, and 5) direct observation of women's associations to gain information about exist cultural and gender norms. Finally, I compiled data into a final report for program managers and clinic staff.

Results/Outcomes: Analysis of data revealed that there were 589 reported cases of violence during the past year experienced by women and children. My primary recommendations included the development of policies and procedures to respond to survivors of violence as well as training for all clinic staff and partnership with other local NGOs.

GLOBAL HEALTH

Name: Diallo, Kadiatou

Practicum Site: Institut Mère-Enfant de Kaolack (IMEK)

Location: Boston, MA

Title: Violence against Women and Children in Kaolack, Senegal

Introduction: The Mother-Child Institute of Kaolack, known as l'Institut Mère-Enfant de Kaolack (IMEK), is a non-profit healthcare organization that has established clinics throughout the city of Kaolack, Senegal. As IMEK is well-connected with the communities it serves, the organization has acknowledged the presence of gender-based violence (GBV) and violence against children. The objective of my practicum was to conduct a needs assessment that would provide IMEK with a better understanding of the magnitude and types of GBV and violence against children in Kaolack, including recommendations for strengthening response to survivors of these forms of violence.

Methods: The assessment included: 1) a review of literature utilizing case studies and recent reports from USAID, 2) development of qualitative research questions for data collection, 3) utilization of research questions to conduct 12 key informant interviews (KIIs) with health care workers, representatives from sectors of local government and NGOs, and community health workers, 4) conducting three focus group discussion (FGDs) with women from communities surrounding the IMEK clinics, and 5) direct observation of women's associations to gain information about exist cultural and gender norms. Finally, I compiled data into a final report for program managers and clinic staff.

Results/Outcomes: Analysis of data revealed that there were 589 reported cases of violence during the past year experienced by women and children. My primary recommendations included the development of policies and procedures to respond to survivors of violence as well as training for all clinic staff and partnership with other local NGOs.

Name: Easley, Siena

Practicum Site: Epidemico

Location: Boston, MA

Title: Spanish Curator

Introduction: The team at Epidemico takes on large-scale data projects to address unique public health challenges. They are optimized to acquire, store, process, analyze, visualize, deliver, and secure data- customized to their clients' needs. Epidemico collaborates on the HealthMap project, which provides real-time surveillance of public health threats through online informal information sources. The Spanish curator worked on interfaces including HealthMap and MedDRA in order to manage unconventional data sources including news articles, reports, and social media posts for infectious disease mapping and adverse event tracking.

Methods: This practicum had several components, including: 1) Curation of incoming HealthMap Spanish articles in order to geospatially track infectious disease incidence for the public; 2) Curation of Spanish social media posts in order to train a parser to capture adverse events related to medical products; 3) Research and contribution of articles about infectious disease outbreaks; 4) A report on lessons learned and recommendations for the Spanish article parser for future curators.

Results/Outcomes: Through collaboration with two other curators, the Spanish HealthMap feed was maintained accurately and routinely, made accessible to the public through mapping. The MedDRA posts were curated in order for the system to be trained to capture the correct adverse events. Articles for Disease Daily were written for circulation and deeper public understanding of disease outbreaks.

Name: Eldred, Kaytlin

Practicum Site: Zambian Ministry of Health; the Program in Global Surgery and Social Change at Harvard

Location: Boston, MA

Title: Research Associate for the Program in Global Surgery and Social Change's Zambian National Surgical Plan

Introduction: I began working with Harvard Medical School and the Lancet Commission on Global Surgery (LCGS) to develop a National Surgical, Obstetric, and Anaesthesia Plan (NSOAP). The LCGS promotes safe and affordable surgical and anaesthesia care for all patients. It consists of nearly 1,000 contributors in over 110 countries representing academic institutions, governments, NGOs, professional societies, and individual stakeholders. Zambia is the first to begin adopting the framework for a National Surgical, Obstetric, and Anaesthesia Plan outlined by the Commission and will serve as an international model in this effort.

Methods: Over the span of four months, the NSOAP was written, using expansive and exhaustive literature reviews, encompassing (1) healthcare delivery and infrastructure, (2) workforce, and (3) information management, technology, and financing. I focused on addressing Zambia's inadequate surgical workforce, which is now becoming more and more necessary in a country that is experiencing a double burden of disease.

Results/Outcomes: Between 2017 and 2021, Zambia will integrate these new surgical and anesthesia goals into their health plan using the NSOAP. This project is unprecedented, so based on our projected results, Zambia will act as a model for other countries of similar income and burden of disease.

GLOBAL HEALTH

Name: Enad, Racquel

Practicum Site: World Vision USA

Location: Washington, DC

Title: Social services from the perspectives of parasocial workers in Sub-Saharan Africa

Introduction: With the rise of parasocial workers (PSW) who support people living with HIV/AIDS (PLWH), it is imperative to understand their needs to perform their work in communities. The aims of the study were to analyze (1) the barriers and facilitators of PSWs, and (2) the linkages between the social service sector and the health sector. PEPFAR defines parasocial workers as “receiving anything from a few days of training up to 6 months of training....and often work under the supervision of a professional social worker, nurse, or physician.” World Vision USA is working with WV National Offices (NOs) in Kenya, Ghana, Swaziland, Uganda, and Zambia to collect data.

Methods: I acted as a research coordinator. Firstly, I supported NOs in obtaining ethics clearance for the study. In collaboration with local contacts, I completed the Institutional Review Board applications for two countries, including the drafting/editing of the appendices. Secondly, I coordinated the data collection from the five countries. Thirdly, I supported the initial data analysis of 44 questionnaire responses. My support included organizing a database for themes and subthemes. Lastly, I completed a literature review on the social service workforce in sub-Saharan Africa, specifically on those who provide services to PLWH.

Results/Outcomes: The study is still ongoing, and countries are at different stages in IRB applications and data collection. To outline the next steps for the research team, I wrote a progress report that include details on obtaining ethics clearance, completing data collection and analysis, and drafting of a scientific manuscript.

Name: Good, Amanda

Practicum Site: Zambian Ministry of Health and the Program in Global Surgery and Social Change at Harvard

Location: Boston MA

Title: Improving Global Surgery: Zambian Ministry of Health and the Program in Global Surgery and Social Change

Introduction: Global surgery is a largely omitted public health topic and in low-middle income countries, such as Zambia, strained infrastructure and limited workforce can make safe, affordable access to this vital health service challenging. The Program in Global Surgery and Social Change has collaborated with the Zambian Ministry of Health to produce a healthcare plan for inclusion in their 7th National Development Plan (NDP 2017-2021) with the goal of improving access, safety and affordability to surgical and anaesthesia care.

Methods: As a student on this project, I performed targeted data collection to assess the current state of surgical care in Zambia. I was then assigned to the Financing, Information Management, and Technology team, where we created a reference document that guided discussions with local key-informants and stakeholders to assess their perceptions of the strengths and weaknesses of the system, as well as potential solutions. These meetings culminated in a weeklong writing-workshop with key contributors to produce a draft of the National Surgical, Obstetric and Anaesthesia Plan (NSOAP) for the NDP 2017-2021. I then joined the team in Zambia in early May to prepare for the National Surgical and Anaesthesia Forum (NSAF).

Outcomes: The first NSAF was held in Lusaka, Zambia on May 11th, 2016 to present preliminary information on the NSOAP to stakeholders, sponsors, and potential funders. The plan will be reviewed at the government level in late 2016 for inclusion Zambia’s NDP 2017-2021. There is continued work on this project as the review period approaches.

Name: Hebert, Kendra

Practicum Site: Zambian Ministry of Health and the Program in Global Surgery and Social Change at Harvard

Location: Boston, MA

Title: Supporting the Lancet Commission on Global Surgery with the Development of a National Surgical and Anesthesia Plan for Zambia’s Five-Year Health Strategic Plan

Introduction: The Lancet Commissions’ Global Surgery 2030 ascertained that 5 billion people across the globe lack access to safe, affordable surgical and anesthesia care resulting in higher case-fatality rates from treatable surgical conditions. The Zambian Ministry of Health and the Program in Global Surgery and Social Change at Harvard Medical School established a partnership in order to produce a policy document that addresses these problems in Zambia’s surgical and anesthesia care. This document also focuses on social and economic disparities that further exacerbate negative health outcomes in afflicted populations. The scope of the practicum was to assist with the development of this policy document and support the Lancet team throughout the writing process of the National Surgical, Obstetric, and Anaesthesia Plan (NSOAP).

Methods: My responsibilities were comprised of compiling relevant data extracted from various sources, developing a Terms of Reference (TOR) for the Healthcare Delivery and Infrastructure (HD&I) working group, editing and formatting committee meeting notes and the NSOAP, and assisting with additional preparations for the National Surgical and Anaesthesia Forum (NSAF) while in-country.

Results: The data extraction provided a basis of information to develop the TOR, which was used in-country during committee meetings to determine the state of Zambia’s surgical care. The Lancet team used the committee meeting notes as a foundation for the NSOAP, which was further developed during an in-country writing workshop. Later this year the government will approve the NSOAP and the project will move forward to the next phase, “intervention development”.

GLOBAL HEALTH

Name: Holmes, Nelson
Practicum Site: World Education
Location: Arusha, Tanzania
Title: Tackling Gender Based Violence

Introduction: Many traditional practices in Tanzania, such as female genital mutilation, directly or indirectly promote gender based violence (GBV). In a 2010 survey more than 50% of males and females felt wife beating was acceptable. Together to End Violence Against Women (TEVAW) was a three pronged program aiming to reduce GBV in Arusha, Tanzania through education and activities promoting the reframing of gender roles. The program was carried out through a partnership between World Education Inc. and Boston University. The practicum focused on end line data preparation at the Arusha site. This data is vital for analyzing the effectiveness of the study's intervention arms.

Methods: I prepared, transferred and verified end line data, documented changes in program activities, and transcribed in depth interviews. In all, 747 surveys were transferred, 107 in depth interviews were translated and transcribed, and the in practice intervention arms' activities were documented with an emphasis on any changes from the original design.

Results/Projected Outcomes: The surveys are being analyzed to determine the effectiveness in each intervention arm. The in depth interviews will provide qualitative support to the quantitative information discovered from the surveys. Determining what, if any, changes occurred during the in practice intervention arms' activities is necessary before drawing conclusions about what worked and did not work. The final assessment is in the process of being written and will inform future GBV interventions in Tanzania.

Name: Howard, Rachel
Practicum Site: Boston University School of Medicine - Pulmonary Center
Location: Boston, MA
Title: Tuberculosis Epidemiology and Tool Development for Primary Care Screening in Boston's Homeless Population

Introduction: Currently, clinicians and surveillance data are identifying an increase in tuberculosis (TB) cases among Boston's homeless population. While homeless populations are at higher risk for TB, Boston has traditionally had good control over TB infection within this population, making the rise in cases concerning. In order to identify cases more efficiently, Dr. John Bernardo is working on developing a clinical and educational program to integrate 10 minute TB screening for at risk patients in to primary care visits at Boston Healthcare for the Homeless and its satellite clinics. The goal of the practicum was to provide assistance in epidemiology and tool development, in preparation for program implementation.

Methods: I worked with Dr. Bernardo to achieve three main goals: 1) develop an educational tool for use with patients and subsequent post education monitoring tool; 2) compile the epidemiology data from 2013-2015, combine with existing data and analyze population risk factors from the past 5-years; 3) and update the clinical tool to reflect new risk factor information and transfer information into a clinically friendly format.

Results/Outcomes: The educational and clinical tools will be used for Grand Round presentation to clinicians within Boston Healthcare for the Homeless and for subsequent TB screening and education upon program implementation.

Name: Hunt, Kristin
Practicum Site: Management Sciences for Health
Location: Arlington, VA
Title: Pharmaceuticals and Health Technologies Group Intern

Introduction: As an intern at Management Sciences for Health (MSH), I worked within the Pharmaceuticals and Health Technology (PHT) group to analyze and provide summary recommendations for strengthening the national pharmaceutical supply chain based on data collected through the National Supply Chain Assessment (NCSA). NCSA is a toolkit developed as a partnership between SCMS, USAID|DELIVER, and SIAPS, and measures the capability and performance of a supply chain. The assessment can be used to inform stakeholders and implementers about where to direct strengthening and capacity-building by identifying under-performing components of the supply chain.

Methods: In order to analyze and summarize potential strengthening recommendations, my internship activities included: (1) writing a brief introduction to the Ukrainian health and pharmaceutical systems and a brief background explaining the National Supply Chain Assessment; (2) summarizing and analyzing the previously collected NCSA assessment data; and (3) developing recommendations for future improvements in Ukraine's national and regional supply chain management.

Results/Outcomes: It is important for national stakeholders to understand the objective performance and capacity of the national pharmaceutical supply chain in order to effectively and efficiently target areas that could benefit from strengthening. The primary outcome of my internship provided system-level recommendations for strengthening Ukraine's national supply chain performance and capacity to improve health outcomes for patients.

GLOBAL HEALTH

Name: Jensen, Chelsea

Practicum Site: Brookline-Quezalguaque, Nicaragua

Location: Nicaragua

Title: Childhood Malnutrition, Sexual Education, and Contraceptive Availability in Nicaragua

Introduction: The Brookline-Quezalguaque Sister City Project (BQSCP) has been working in Quezalguaque to improve health and well being for 29 years. To address and better understand the issues of malnutrition and sexual education, BQSCP conducted a malnutrition survey in the Leon region and developed an adolescent sexual health curriculum.

Methods: May- June 2016 our team designed, implemented, and analyzed a malnutrition survey. 168 families in small rural villages participated in the survey that included questions regarding food and water sourcing, household composition, nutrition, iron supplementation, housing and persistent illness. In addition, our team created and implemented a sexual education curriculum for adolescents in three schools. Lastly, I performed qualitative interviews with key informants in 14 local public and private pharmacies regarding the availability of contraceptives.

Results/Project Outcomes: The malnutrition survey revealed that better nutrition is correlated with the presence of a family garden, frequent food consumption and negatively correlated with the perception of having a child with persistent illness. Our report was provided to the health center and included data analysis results and recommendations for nutritional improvement. The team also provided a list of the names of malnourished children to both the health center and city hall in order for the families to receive food supplementation. We provided our sexual education curriculum to teachers. The survey on contraceptive availability revealed that the most widely available form of contraception is oral contraceptive pills and the once monthly hormonal injection which require no prescription in private pharmacies.

Name: Konduru Subramani Raju, Priyanka

Practicum Site: World Health Organization

Location: Geneva 27, Switzerland

Title: Developing a methodology to collect information on appropriate antibiotic use for WHO

Introduction: Antimicrobial resistance (AMR) threatens human health worldwide by jeopardizing the prevention and treatment of many life-threatening infectious diseases like HIV, Tuberculosis, Malaria and other common bacterial infections. WHO is a coordinating authority, directing international health within the United Nations' system that supports and leads partners in global health responses. In May 2015, WHO adopted a global action plan on AMR, which outlines objectives to combat the problem and is continually involved in coordination among international sectors and actors for monitoring and evaluating national activities and emphasizing on research and surveillance programs.

Methods: During my tenure as an intern, I developed a methodology to collect information on antimicrobial prescribing and appropriate use of antibiotics in various countries. The preliminary task was to conduct a literature review on existing methods successfully applied to gather information on prescribing and antibiotic use in different settings. Search strategy involved databases like PubMed, Cochrane and Google scholar.

Results/Outcomes: Out of 2052 articles found, 49 articles were screened by title and abstract and retrieved. Information on study designs, data collection method, variables and indicators used on antimicrobial prescribing and use were collected. This comprehensive information obtained from the review serves as a basis for WHO to strategize and develop the global tool in response to the global action plan to enhance research and surveillance to reduce AMR.

Name: LaLonde, Barbara

Practicum Site: Fenway Community Health Center

Location: Boston, MA

Title: TB or not TB; protecting healthcare providers from infectious diseases in the workplace

Introduction: Fenway Community Health Center (FCHC) is dedicated to caring for the LGBTQ community. FCHC is recognized for performance standards by The Joint Commission on Accreditation for Healthcare Organizations (JCAHO). Currently, Occupational Health (OH) has fallen ~2 years behind meeting JCAHO compliance. As FCHC merges with AIDS Action, a 20% increase in demand for employee OH services will require an efficient system for maintaining annual JCAHO compliance. As an Infectious Disease Consultant, I worked to design and implement a sustainable OH services program.

Methods: Research was conducted on Surveillance, Prevention and Infection Control (SPINFC) Policies & Procedures. 15 incident reports of 2015-2016 occupational exposures to blood-borne pathogens (BBP) were reviewed. 2 focus groups with FCHC healthcare providers were conducted throughout analysis of the existing OH program. 6 OH documents meeting JCAHO requirements were created. I became a certified Fit Tester of N95 respirator masks and an administrator of intradermal injections for Tuberculosis-Purified Protein Derivative skin tests (TB-PPDs).

Outcomes: 15/15 of FCHC's SPINFC Policies & Procedures were updated to reflect the most current practices and will serve as a reference to employees gained in merging with AIDS Action. 5 recommendations to prevent BBP exposures were made to protect all at risk healthcare providers. 100% of FCHC employees meet JCAHO compliance for annual N95 Fit Testing (N=69) and TB-PPDs (N=98). The OH program utilizes the 6 documents created to administer & document vaccines/PPDs, and a clearly defined system for ease of recordkeeping & well organized annual evaluation of services rendered moving forward.

GLOBAL HEALTH

Name: Lang, Cheryl
Practicum Site: Massachusetts Department of Public Health
Location: Revere, MA
Title: Promoting Health and Education in Revere Youth

Introduction: In 2016, the City of Revere applied for two grants from the Massachusetts Attorney General and the Revere Recreation Department to create a youth program addressing health concerns. The resulting Revere Youth Health Leadership Council Summer Program is made up of 12 at-risk participants ages 14-20 years old, with the goal of providing jobs for adolescents of low socioeconomic status communities that promote individual health improvement and foster peer health education and leadership.

Methods: Various community stakeholders held 8 workshops for youth to attend weekly and receive education on relevant health concerns. Prior to these workshops, a pre-survey was distributed to assess the knowledge and awareness of the youth on particular topics. After completing the program, an identical post-survey was administered to evaluate changes in awareness. Participation in the workshops and hours worked in the program were documented.

Results/Outcomes: During the first 4 weeks, all twelve youth worked each week (42% averaged 54/60 hours, 42% averaged 45/60 hours, 16% averaged 34/60). Additionally, individual workshops had the following participation: 100% of youth attended the farmer's market in week one and 92% visited the farm, 93% came to street safety, 83% went on the state government State House tour, and 67% attended the drug/alcohol workshop by week 5. Evaluation of the policy, system, and environmental changes questions in the post-survey demonstrated increased knowledge results. Continued participation in workshops and improvement of post-survey questions indicates further education and a deeper understanding of public health concerns within the youth.

Name: Latham, Kiera
Practicum Site: Massachusetts Department of Public Health
Location: Middleton, MA
Title: Evaluating Community Health in Middleton, Massachusetts

Introduction: Middleton, Massachusetts is a small town with 9,273 residents. Based on the latest census data, the average yearly household income in Middleton is \$106,000, the average age is 40.6 years, and the population is 60% male. To better serve the community, the local health department conducts and analyzes a community health assessment each year. The 2015-16 survey consisted of 82 questions about demographics, communication with the health department, barriers to health care, personal health, and health department services. My role in this effort was recruiting residents to take the survey, analyze the data, and submit it to the board of health.

Methods: Starting in May 2016, the community health survey was available on the town website. To recruit residents, an instruction page on accessing the survey was distributed to residents outside of a local supermarket with a \$2 gift card incentive for an ice cream store. By July 28th, there were 287 responses and 180 instruction pages had been distributed.

Results/Outcomes: Of those that responded, 71% were female, 62% had a yearly household income \$100,000 or more, and the average age was 45-54 years. When asked where they would go to get health information, 78.2% use the internet or social media, while 16.7% said the local health department. Mosquito-borne illnesses, water supply/wells/septic systems, drug/alcohol abuse, pedestrian safety, and obesity/exercise were the commonly identified threats to public health. The recurrent health conditions of 145 who reported them were: depression/anxiety (17.2%), asthma (15.5%), obesity (14.7%), and vision/hearing impairments (22.8%).

Name: Lee, Dorothy
Practicum Site: Uganda Village Project
Location: Hummelstown, PA & Uganda
Title: Evaluating Community-Based Health Promotion

Introduction: Uganda Village Project (UVP) is a grassroots support organization working to promote public health and sustainable development in rural communities of Iganga District, southeast Uganda. Partnering with local stakeholders, UVP implements, in targeted villages, five health education and outreach programs – HIV/AIDS, Water, Sanitation & Hygiene (WASH), Malaria, Family Planning, and Obstetric Fistula – which are undertaken over a three-year period. This model is called the “Healthy Villages”, in which the Monitoring and Evaluation (M&E) team begins follow-up work during the second year to evaluate first-year health initiatives.

Methods: Working with M&E team, I (1) collected follow-up surveys in 2 villages from 229 household heads with nearly full coverage; (2) conducted 2 focus groups and 2 in-depth interviews with 14 community health workers (CHWs) to assess utilization of health services and health-seeking behavior among community members using Root Cause Analysis, Health Belief Model, and Transtheoretical Model; (3) entered data into Excel spreadsheet, analyzed changes in program indicators, and made recommendations accordingly; (4) gave 6 educational health talks on WASH, malaria, and reproductive health.

Results/Outcomes: When comparing pre- and post-intervention data, the team found significant improvement in WASH and family planning practices, i.e. an increase in the percentage of women who currently uses birth control (0.37, $p < 0.0001$), and discovered the effectiveness of financial incentives to encourage healthy behaviors and promote compliance. Finally, the team uncovered lack of accountability and re-training for the CHWs and would recommend UVP to develop and implement a capacity-building curriculum during the third year to improve program sustainability.

GLOBAL HEALTH

Name: Mathew, Grace
Practicum Site: ElevateX
Location: India
Title: Research Project Coordinator

Introduction: ElevateX alongside the Robert F. Kennedy Center for Justice and Human Rights and Health eVillages is tasked with creating a standard of wellbeing defined through a global wellbeing index. This index will serve as tool for monitoring and evaluating public health & development programs and project implemented by governments, NGOs, aid organizations, etc. By establishing proper metrics to evaluate impact, resources will be better utilized, allowing people to be better served.

Methods: I conducted a thorough literature review to determine if wellbeing was an appropriate metric for evaluation, created a survey, conducted 50+ interviews, analyzed data, and designed a brief explaining my findings as well as a call for further funding and support. Additionally, I was tasked with developing mental health questions as a part of the survey in a way that would allow participants to answer without fear of judgment as mental health is still a stigmatized subject in many South Asian communities.

Results/Outcomes: This is an ongoing project. Based on the interviews I conducted, our team realized there were adjustments to be made to better evaluate the community. I was able to train local community members how to conduct proper interviews, and they will conclude the next round of interviews with a revised survey. My findings have been written up in a brief which will be presented to stakeholders at an upcoming development conference. The ultimate goal is to create something everyone can use to ensure organizations are having a meaningful impact creating sustainable transformations.

Name: Mehralizade, Aydan
Practicum Site: Lesotho-Boston Health Alliance (LeBoHA)
Location: Boston, MA
Title: LeBoHA Summer 2016 Internship

Introduction: 83% of deliveries in the Leribe district of Lesotho occur at health facilities. The health centers of Leribe are equipped to handle deliveries, and the staff of 16 out of 25 health centers have received midwifery training from the Lesotho-Boston Health Alliance. Despite the recent renovations and improvements, approximately 16% of women in Leribe deliver at home, facing the risk of obstetric complications, as well as maternal and fetal death. The purpose of this root cause analysis is to identify factors that motivate women to forgo the skilled birth attendance at health institutions in favor of delivering at home.

Methods: This mixed-methods used convenience sampling to collect qualitative and quantitative data. In-depth interviews were conducted with recently delivered women from catchment areas of four health centers.

Results/Outcomes: Of the fifty-two women we interviewed, 65% delivered at home. Lack of knowledge of delivery dates leading to unexpected labor was a major contributing factor to home deliveries. Qualitative findings revealed that women prefer facility-based deliveries as opposed to home-based deliveries. Major barriers to having a facility delivery included the poor condition of roads leading to the health centers, lack of access to transportation, and the poor treatment of women by nurse-midwives. Findings suggest that public health interventions such as improving access to transportation, providing outreach and education geared toward expectant mothers, and providing sensitivity training to nurse-midwives could increase the percentage of facility-based deliveries in the Leribe district of Lesotho.

Name: Morrison, Abigail
Practicum Site: United African Alliance Community Center
Location: Arusha, Tanzania
Title: Reducing Period Shame: Educating Tanzanian Girls on Menstrual Hygiene Management

Introduction: During Dr. Onyango's GH720 course, I worked with a group to research determinants of menstrual hygiene management (MHM) in rural Kenya. One of the largest unaddressed barriers is stigma associated with sexual education. We recommended training peer mentors to promote conversations and rebrand menstruation as "normal." We developed MHM curriculum and peer mentor training guides. Curriculum topics included biology of menstruation, hygiene, disposal methods, health risks, emotions, and training future peer mentors. I pilot tested this curriculum in Tanzania at the United African Alliance Community Center, where I had previously volunteered, which operates a secondary school and children's home. Female students from both (ages 12-15 and 17-20) were recruited. UAACC requested additional topics added for their residents: reproductive systems, contraceptives, sexually transmitted infections, healthy relationships, and support options.

Methods: I trained students over 2-4 days in hour-long sessions. The older girls received pre-surveys to assess knowledge levels (I assumed younger girls had minimal sexual education). The 12-15 year olds received the additional sexual education curriculum. Girls provided oral feedback at the end.

Results/Outcomes: There was 100% attendance in meetings and all girls either asked or answered at least one question in all sessions. On the assessment portion of the pre-survey, the girls scored an average of 55%. Oral surveys conducted with younger girls confirmed they had no previous sexual education. Typical feedback responses were "I am less scared of getting my period now. I know what to do."

GLOBAL HEALTH

Name: Oppenheim, Claire
Practicum Site: Addis Ababa University
Location: Addis Ababa, Ethiopia
Title: Guiding the Development of a Center of Excellence for Drug Discovery in Ethiopia

Introduction: Drug discovery through rigorous clinical research holds significant financial and clinical promise, but requires human and infrastructure capacity that many low and middle income countries lack. In June 2016, Addis Ababa University (AAU) in Ethiopia was awarded a multimillion-dollar World Bank Africa Centers of Excellence grant to establish the Centre for Innovative Drug Development and Therapeutic Trials for Africa (CDT-Africa). CDT-Africa seeks to become a “center of excellence” leading the region in capacity development for drug discovery, diagnostics and therapeutics. The purpose of this practicum was to provide guidance to CDT-Africa leadership on the fundamental question: What is a Center of Excellence?

Methods: During the practicum, I searched peer-reviewed and grey literature using web databases including PubMed, GoogleScholar and Web of Science, and met with the center director four times over the 29 days to discuss and contextualize the research findings. Common themes and evidence were distilled into a 25-page report.

Results/Outcomes: The report described key elements that define and drive centers of excellence (COEs). COEs vary widely in structure and components, as they exist in many fields including business, technology and health. However, COEs have a common mandate for constant pursuit of progress, paired with commitment to local or regional relevance. This report identified three fundamental and interrelated “processes of excellence” that can develop CDT-Africa into a COE: participatory leadership, knowledge management and interdisciplinary collaboration. The report may be used during initial meetings with CDT-Africa leadership and stakeholders and will serve as a foundation for a publishable manuscript.

Name: Otaru, Sarah
Practicum Site: St. Mary's Center for Women and Children
Location: Boston, MA
Title: St. Mary's center for Women and Children

Introduction: Teenage pregnancy has profound consequences for the teen mother (father), the child, and for the society at large. Teen mothers are less likely to complete school and more likely to be single parents. Children of teen parents are more likely to receive inadequate parenting as well as suffer abuse, and/ or neglect. In response, SMCWC welcomes young women between the ages of 13 and 21 at any stage of their pregnancy or postpartum. There, they learn parenting as well as independent life skills, while also pursuing educational, vocational, and personal goals. The purpose of my practicum was to help develop a parenting skills curriculum that is evidence based, culturally competent, trauma informed and laid out according to the theories of child and adolescent development.

Methods: I reviewed literature (27 peer reviewed articles and curricula) relating to teenage pregnancy/ parenting. I compared my information with what is obtainable at other similar programs. I carried out unstructured but in-depth interview with residents and I presented my research findings to members of staff for deliberation.

Results/Outcomes: All curricula reviewed, showed effectiveness in promoting the completion of education, and planning for the future; encouraging the use of contraceptives; preventing STIs and reducing repeat pregnancies/births among residents. In addition, some showed effectiveness in improving health outcomes for babies including reduced infant abuse/neglect; and improving employment outcomes for parents. This information helped members of staff learn about available evidence for pregnant and parenting teen programs and helped them understand what works or what doesn't based on available evidence.

Name: Peynetti Velazquez, Paola
Practicum Site: World Vision Guatemala
Location: Washington, D.C.
Title: Global Health Fellowship: Contextualizing Behavior Change Models in Guatemala

Introduction: World Vision (WV) and Johns Hopkins University designed the Child Health and Nutrition Impact Study (CHNIS), a quasiexperimental research project that, since 2012, evaluates the effectiveness of WV's nutrition and maternal and child health programs in Cambodia, Guatemala, Kenya, and Zambia. The social-ecological and cascade training models have been contextualized per community; therefore, the purpose of my fellowship was to systematize the documentation of environmental factors, volunteer strategies, and organizational changes affecting implementation and results in Guatemala.

Methods: I supported Guatemala's CHNIS Coordinator, by 1) facilitating 2 face-to-face workshops for 50 community health workers (CHWs) to share obstacles and strategies; 2) documenting workshop results; 3) systematizing 30 environmental factors affecting the implementation of 3 Study models; 4) assisting one-week training and supervision of 16 end line data collectors; 5) assisting with 5 health workshops and other projects as needed.

Results/ Projected Outcomes: I developed: a 50-pg report & system documenting work plans, strategies, and lessons learned from CHW workshops; a community leaders focus group case study (evaluating WV's work, sustainability, partnerships); a report analyzing implementation consequences of environmental factors; a list of 20 recommendations for improving data collector trainings; 6 organization charts from 4 Area Development Programs (ADPs), FY13-16; a report on a demographic census of 549 pregnant women and 1468 children under 2 in 4 ADPs. All deliverables, in English and Spanish, were presented to WV and will be used to monitor implementation, analyze endline data, and inform the other Study sites for best practices and contextualization.

GLOBAL HEALTH

Name: Reese, Beleny
Practicum Site: Brookline-Quezalguaque, Nicaragua
Location: Nicaragua
Title: Brookline-Quezalguaque Sister City Project

Introduction: Childhood malnutrition can affect health and development. The Brookline-Quezalguaque Sister City Project seeks to improve health outcomes in Quezalguaque, Nicaragua. Recently the Health Center identified several cases of malnutrition in children under six years old and requested research into the contributing factors. A survey and analysis were used to inform health and municipal authorities of risk factors of childhood malnutrition.

Methods: We developed, implemented, and analyzed a child malnutrition survey in rural Nicaraguan communities, using a case-control study design. One hundred sixty-eight families were interviewed. Meetings with key stakeholders such as local Ministry of Health officials, municipal government leaders, and faculty from the national medical school were held prior to beginning the survey. These stakeholders were provided with preliminary and final reports of the results. In addition, a sexual education curriculum was developed and presented to secondary school students in three schools. A pre- and post-test were used to track improvement in understanding.

Results/Outcomes: Analysis of nutrition data showed significant correlation between malnourished cases and perception of illness in the child, a family garden, and a score developed to reflect quality of diet. Recommendations to outline specific malnutrition protocol and to implement a maternity/breastfeeding group were made to the Health Center. Additionally, to address prevention, we recommended more coordination with the mayor's office, home visits by health workers, an international health day event, and a community garden. Results of the sexual education program show no significant improvement in knowledge of sexual health.

Name: Restivo, Juliana
Practicum Site: Boston University School of Medicine
Location: Boston, MA
Title: Where are all the women? - Community perceptions around schizophrenia in Ethiopia

Introduction: Schizophrenia is a severe mental disorder characterized by psychotic experiences and profound disruptions in thinking that affect language and perception. Though no gender differences exist in the lifetime risk of developing schizophrenia, researchers in Butajira, Ethiopia found the prevalence of schizophrenia to be 5:1, where males have a higher prevalence compared to women. The possibility that schizophrenia may go unrecognized and therefore untreated more frequently in women has major clinical and public health implications. The goal of this study by Boston University School of Medicine's Department of Psychiatry and Addis Ababa University in Ethiopia is to understand local culturally explanatory models of schizophrenia.

Methods: Using the grounded theory analysis I assisted in developing the codebook for the qualitative data analysis of the community members' in-depth interviews. Guided by Kleinman's Explanatory Model of illness framework we examined their perceptions with the aim of describing their personal and social beliefs related to the causes and consequences of schizophrenia. QSR NVivo was used for data management.

Results/Outcomes: Axial coding led to finding differences, themes and trends from the thirty-nine interviews. The majority of respondents reported differences in gender regarding symptoms of the illness, contradicting their descriptions of men and females with schizophrenia that they knew. Descriptions of men with schizophrenia showed cognitive disturbance and physical aggression, while women often exhibited depression and social withdrawal, causing diagnosing differences. We are continuing to analyze results to improve cultural and gender sensitivity and aid in development of a training in identifying new patients with schizophrenia.

Name: Reuben, Manisha
Practicum Site: Boston University School of Public Health
Location: Boston, MA
Title: Presenting the findings of a Mixed-Methods PEPFAR Evaluation in Vietnam

Introduction: The purpose of my practicum was to support the development and finalization of a scientific manuscript that described a previously-completed effectiveness evaluation of PEPFAR-supported community outreach HIV prevention programs in Vietnam. The evaluation leveraged a mixed methods design, combining quantitative surveys with 2,199 individuals in four provinces with in-depth interviews across six provinces.

Methods: My scope of work included a literature review to assess the existent body of knowledge; revisions to content for alignment with recently published facts/figures; and reconfiguration of six tables for final submission.

Results/Outcomes: Deliverables included six qualitative/quantitative data tables, a literature review, integration of recent facts/figures, and updates to the introduction/background sections of the manuscript. Presently, the manuscript remains in draft status and finalization is anticipated for the Fall. The project will contribute to the existent body of knowledge pertaining to effectiveness of community outreach mechanisms in preventing HIV among special populations. Through this experience I was able to gain a more nuanced understanding of scientific research, mixed-methods evaluations, and the processes related to manuscript development and submission.

GLOBAL HEALTH

Name: Rogers, Jenna
Practicum Site: World Health Organization
Location: Simpsonville, KY United States
Title: Intern

Introduction: Between May and August, I interned at the WHO in the Emergency Risk Management Department (ERM). As an intern, I interacted with my colleagues in ERM and across the organization, observed the transition of the WHO emergencies program from a technical agency to an operational agency in emergency response with the passing of the new emergencies program at the World Health Assembly, and gained valuable experience working in a professional setting. The courses within the global health department including Monica Onyango and Taryn Vian's courses provided a knowledge base for understanding HRPs, the terminology used, and the tools such as excel used to perform this analysis. Core coursework such as biostatistics and epidemiology taken at BUSPH gave me a framework for understanding the nature of the work done at the WHO.

Methods: As an intern I worked for the humanitarian response plan project (HRP) that is aimed at analyzing the WHO's response in emergencies. I conducted an analysis of previous responses, assisted in meeting preparation and in taking meeting notes. The goal of the HRP program is to determine which types of projects the WHO tends to implement within the HRPs. My work involves identifying areas for increased WHO involvement in emergency response and determine potential strategies to improve planning, accountability, and implementation of WHO health projects within HRPs.

Results/Outcomes: The HRP project provides a valuable overview of the WHO's work in emergencies since 2014 and potential areas where WHO can use their technical expertise to improve their operational capacities in emergency response.

Name: Simmons, Elizabeth
Practicum Site: Lesotho-Boston Health Alliance (LeBoHA)
Location: Boston, MA
Title: Root Cause Analysis for Home Deliveries in Leribe, Lesotho

Introduction: In 2013, all 25 health centers in the Leribe district of Lesotho became equipped to handle deliveries. Following these updates, staff from 16 of the 25 health centers received updated midwifery training. Despite these improvements in maternal health care, 16.3% of women still deliver at home. The percentage of women delivering at home varies based on the health center, from 0% to 92%. The purpose of this root cause analysis is to identify factors that motivate women to deliver at home rather than in a health center.

Methods: This study used convenience sampling to collect qualitative data. We conducted in-depth interviews with recently delivered women in the catchment areas of four health centers: two health centers with the highest percentage of home births and two comparison health centers. Family members, village health workers, traditional birth attendants and nurse-midwives were also interviewed to determine their influence on the decision of where to deliver.

Results: Major factors influencing home deliveries included insufficient knowledge of due dates, perceived negative attitudes of nurse-midwives, a shortage of supplies at the health centers and hindered access to transportation. Influencing factors for facility-based deliveries included a desire to prevent mother-to-child HIV transmission and a strong community preference for facility-based deliveries. Our findings indicate that interventions such as improving transportation methods, providing outreach and education to expectant mothers and sensitivity training to nurse-midwives could increase the number of women who deliver at a health center in Leribe.

Name: Sirisena, Ashini
Practicum Site: Lesotho-Boston Health Alliance (LeBoHA)
Location: Boston, MA
Title: Why Basotho Women Choose to Deliver at Home

Introduction: The Lesotho-Boston Health Alliance (LeBoHa) aims to improve the healthcare of Lesotho citizens by strengthening available medical services and increasing the number of Basotho physicians across district hospitals and local health centers. The goal of the practicum was to conduct a root cause analysis on maternal health in an effort to identify the reasons why women forgo a facility based delivery and instead deliver at home. The study was conducted in the Leribe district of Lesotho where approximately sixteen-percent of women choose home based deliveries.

Methods: Responsibilities for this study included creating multiple in depth interviews, conducting focus groups and collection and analysis of data. Convenience sampling was used to collect qualitative and quantitative data from fifty-two mothers in the catchment areas of four health centers in the Leribe district. Additionally, we interviewed twenty-five others who may influence a woman's decision to deliver at home including nurse-midwives, traditional birth attendants and family members.

Results/Outcomes: Our research uncovered reasons why women in Leribe choose to deliver at home. This includes unexpected delivery due to the mother not having an estimated delivery date, poor roads making it difficult for women to reach the local health centers, lack of transportation, tradition and beliefs and ill treatment of women by the nurse-midwives. Our findings and recommendations will be presented by LeBoHa to the Ministry of Health in Lesotho.

GLOBAL HEALTH

Name: Sivalogan, Kasthuri

Practicum Site: Dana-Farber Cancer Institute

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.

Methods: 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. 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 of 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.

Name: Tupper, Haley

Practicum Site: Calmette Hospital

Location: Phnom Penh, Cambodia

Title: Acute Kidney Injury Research in Cambodian Hospital (Phnom Penh, Cambodia)

Introduction: Saving Young Lives, an international nephrology consortium, has focused on introducing peritoneal dialysis (PD) in developing countries for the treatment of acute kidney injury (AKI). Recently, PD was introduced to Calmette Hospital with limited understanding of the etiology and incidence of inpatient AKI in Cambodia. Globally, the causes of AKI are numerous and varied, from nephrotoxic drugs and snakebites to HIV and cardiovascular disease, and are often region-specific. Prior to this research, there was no data characterizing AKI in Cambodia. This pilot study attempted to clarify the burden of AKI in inpatients at two tertiary public hospitals in Phnom Penh, Calmette Hospital and Khmer Soviet Friendship Hospital.

Methods: The practicum included: 1) designing the AKI study in conjunction with a University of Washington nephrologist, 2) obtaining Cambodian National Ethics approval and hospital approval, 3) performing a retrospective chart review of inpatients in higher-risk hospital departments over two months in Phnom Penh, and 4) evaluating and summarizing the data for distribution.

Results/Outcomes: Research was only completed at Calmette Hospital due to time constraints. As the premier tertiary hospital, Calmette has a unique disease profile. Cardiovascular disease, liver disease and infections were the most common identifiable etiologies of AKI, and unlike developed countries, the cause was typically non-iatrogenic. The incidence of AKI ranged between 6.6% and 30.3%, depending on the stringency of definition, an incidence comparable to developed countries, where approximately 1 in 5 inpatients develop AKI. This preliminary study also facilitates future studies on kidney injury and disease in Cambodia.

Name: Viveiros, Natasha

Practicum Site: Brookline-Quezalguaque, Nicaragua

Location: Nicaragua

Title: Childhood Malnutrition and Sexual Education in Quezalguaque, Nicaragua

Introduction: Brookline-Quezalguaque Sister City Project (BQSCP) is an organization which maintains a longstanding partnership with Boston University students to direct health and education based initiatives in Quezalguaque, Nicaragua. The rural municipality, recently experienced a rise in childhood malnutrition cases. A case control like study was conducted at the request of the local health center director to investigate influencing factors.

Methods: A nutrition survey was created to extract information on family economics, living conditions, history of illness, and nutritional status. In collaboration with students from the National Autonomous University of Nicaragua, a total of 55 cases and 109 neighboring controls were surveyed in the community. Responses were coded to create home, economic, food, and drink scores. Height and weight measurements were collected to generate Z scores and determine case definition of malnourishment. A sexual education curriculum was also implemented in three surrounding schools to deter early pregnancy. Curriculum effectiveness was evaluated using pre and post tests.

Results/Projected Outcomes: In Nicaragua, a meeting was held with the head of pediatrics in Quezalguaque to present preliminary data. We found a correlation between malnourished children and family gardens, perception of illness, and generated food score. Recommendations included implementing a breastfeeding group, malnourished protocol, community home visits, community garden, international health day, and strengthening coordination between health professionals and distributors of aid in the town hall. A report of findings will be provided to the health director in Quezalguaque, and members of BQSCP for continued implementation of childhood nutrition initiatives.

GLOBAL HEALTH

Name: Xiong, Wenjun

Practicum Site: World Health Organisation Regional Office for the Western Pacific

Location: Manila, Philippines

Title: Saving Lives with the Right to Medicine--Improving the Accessibility of Hepatitis Medicine

Introduction: Chronic hepatitis C is a major global health challenge. It is estimated that between 130-150 million people are living with chronic hepatitis C virus (HCV) worldwide. The newly developed direct-acting antivirals (DAA) increase the cure rate and successfully reduce the risk of death. However, the high cost of the DAA and low awareness of the disease hamper the accessibility of diagnosis and treatment in low - and middle -income countries. This project's aim is to have a comprehensive understanding of the burden of HCV and the cost of HCV medicine in western pacific countries

Methods: I conducted a situational analysis and literature review (about 30 articles) focusing on the pricing and patent regulation on HCV medicine. In addition, I revised and conducted a survey to obtain hepatitis medicine pricing information in public and private market from 12 member states. I updated the information on hepatitis medicine website and assisted with the development of a WHO facilitated regional pricing mechanism. I assisted in the agenda design for meeting of the regional network on "Access to medicine under universal health coverage" in Seoul, Korea on 22-23 Sep, 2016.

Results/Outcomes: This internship provides me with a deeper understanding in medicine regulation and pricing field. I collected the information from the survey and produced a table, which will contribute to improve the accessibility of HCV medicine in western pacific region. Finally, I completed a presentation to summarize my work and inform the team with updated information in front of the division.

HEALTH LAW, BIOETHICS, & HUMAN RIGHTS

Name: Famouri, Farah
Practicum Site: New York City Department of Correction
Location: East Elmhurst, NY
Title: Grievance Intern

Introduction: NYC Department of Correction Grievance Summer Internship is a pilot program conducted at the model facility George R. Vierno Center (GRVC) on Riker's Island to increase care, custody, and control as well as reducing violence as per the Commissioner's 14 Point Anti-Violence agenda. GRVC is a 1,350-bed facility providing programming and other services for persons accused of crimes or convicted and sentenced to one year or less of jail time.

Methods: As a Grievance Counselor, I go into each housing unit, speak with inmates to collect grievances and requests, solve resolvable issues, and assure that each inmate is receiving their legally mandated programs, services, and mandatory minimums. I additionally collected data on grievances, resolved issues, and non-grievance allegations such as Use of Force, sexual abuse and harassment, and other complaints. Based on these metrics, policy changes regarding grievance for the Department were suggested to Commissioner Joseph Ponte.

Results: It is important to protect and reaffirm inmates' rights and legally mandatory minimums in a culture that removes needed services such as proper jail conditions, adequate mental health care, and transitioning out of utilizing punitive segregation (solitary confinement) for minors. Through this pilot program, I collected grievances and non-grievances for 4 housing units, over 200 inmates, and solved 132 issues throughout the 6 week program. This pilot culminated into creating a Grievance Resource Manual for the Department and Commissioner Ponte.

Name: Saropoulos, Jamie
Practicum Site: Corporate Accountability International
Location: Boston, MA
Title: Campaign Organizer Intern

Introduction: Corporate Accountability International (CAI) is a non-profit organization that challenges corporate power and abuse. CAI has four major campaigns: food, tobacco, climate change, and water. The food, or Value [the] Meal (VtM) campaign, targets McDonald's. McDonald's is targeted for its marketing to children, its misleading charitable practices, and its influence in lawmaking.

Methods: State Representatives and Senators were targeted and exposed for their ties to McDonald's front group, The National Restaurant Association (NRA). CAI developed a scorecard, which shows law makers voting history along with how it impacts food policy. The scorecard also exposed the money each law maker received from the NRA in exchange for votes. Law makers who did not receive money from the NRA were contacted and asked to speak on the scorecards findings. McDonald's was also targeted through multiple street action petitions and phone banks that urged hospitals to end their contracts with McDonald's and close their McDonald's restaurants.

Results/Outcomes: The practicum pressured law makers to vote in ways that do not support the NRA's agenda. Also, a handful of the law makers, who were contacted, have agreed to share CAI's scorecard with members of their team and law makers in their respective jurisdictions. The phone banks and petitions have resulted in two hospitals ending their contracts with McDonald's over the last two months. Finally, the street actions and petitioning have gained CAI's food campaign support from local activists to call on for the VtM campaigns future actions; building a support network to mobilize.

HEALTH POLICY & MANAGEMENT

Name: Alexander, Casey

Practicum Site: Fenway Community Health Center

Location: Boston, MA

Title: Program Evaluation Intern

Introduction: The Violence Recovery Program (VRP) at Fenway Health provides counseling and support for LGBTQ victims of bias crime, domestic violence, police misconduct, and other acts of violence. Additionally, the VRP raises awareness of these violent acts and their effects on the community through providing training services and compiling relevant data. The VRP has recently expanded its services to Western Massachusetts and Cape Cod. In its two decades of service, the VRP has never had the opportunity to evaluate the effectiveness of its services until now.

Methods: A needs assessment was conducted by identifying and calling appropriate organizations in both satellite locations to request participation in an online survey. This data informed a report on interested organizations, contact information and specific requested resources, which was presented to VRP staff. Training evaluations were conducted on a continuous basis, providing a means by which the staff can regularly improve training services. Lastly, assistance was provided in survey creation and database management for client-level service evaluation.

Results/Outcomes: VRP staff is able to form lasting partnerships with organizations on the Cape and in Western Massachusetts following the needs assessment. This has allowed the VRP to raise awareness of its services in these locations, while ensuring that the LGBTQ victim population has access to necessary services. VRP staff is also able to adapt trainings to their specific audiences with regular feedback from trainees of different backgrounds. Finally, preparations are underway for client-level evaluations to begin in September pending final IRB approval.

Name: Bell, Nicholas

Practicum Site: Veterans Affairs Boston Healthcare Systems

Location: Boston, MA

Title: VA Pathways Intern/ Student Trainee

Introduction: Academic Medical Centers face a tremendous regulatory compliance risk while conducting research in regards to billing third-party insurance companies. Within the Veterans Health Administration (VHA), the Boston Healthcare System (BHS) has the most research conducted as compared to other regions. With pressure for healthcare to cut costs, hospitals need to insure that proper financial accountability is taking place. In order to guarantee that VHABHS was appropriately charging for their services, the project analyzed research patients' billing history to see how they were charged.

Methods: Through the use of the hospital's electronic medical records patient data was collected in regards to what procedures were done for the study and the date conducted. The financial software was used to then cross reference the information gathered to check if billing had occurred. The financial software provided the data of when a patient was charged, what it was for, how much, and what was paid by third-part insurer. All the information was summarized into one excel workbook.

Results: Seven research studies were reviewed and discrepancies were found in patients' third-party insurance companies being billed for research studies as well as patients being charged for copays. Due to the highly sensitive nature of this work, data cannot be shared. A deeper investigation needs to take place in order to determine if these findings are valid. Overall, there needs to be a redesign of the current research billing model to ensure further charges do not take place. Checkpoints need to be added in to ensure proper billing.

Name: Berent, Jenna

Practicum Site: Ariadne Labs

Location: Boston, MA

Title: Assessment of Hospital Management and Leadership: Preliminary Results on Knowledge and Practice

Introduction: The management of health care systems and delivery is believed to play a role in patient health outcomes. However, there is little evidence describing the mechanisms of this role. Ariadne Lab's Safe Surgery platform and the "Can Better Management Save Lives?" project seek to better understand the impact management and leadership can have on quality improvement and health outcomes.

Methods: Using the World Management Survey (WMS) to assess management practices, I conducted 35 in-depth, 90-minute qualitative interviews with hospital executives and managers across the U.S. The interviews addressed diverse topics including hospital vision, operations, standardization, coding/documentation, targets, and performance management. I scored each interview item on a 1 to 5-point scale, with "5" indicating strongest adherence to best practice, and assessed inter-rater reliability with a second scorer. I then computed aggregate scores and compared them within and between hospitals. I also conducted a literature review on health care management, surgical leadership, and patient outcomes and prepared a proposal for future direction based on emerging themes and preliminary analyses.

Results/Outcomes: Preliminary analyses confirm that hospitals vary considerably in management implementation and leadership styles. Nurse managers outperformed chief surgeons in management and leadership knowledge and practice. The lack of leadership among chief surgeons could implicate team dynamics and surgical outcomes, including successful implementation of the Surgical Safety Checklist. Future research should assess physician and nurse leadership and its impact on both mediating variables (e.g. use of checklists) and on health outcomes.

HEALTH POLICY & MANAGEMENT

Name: Biancarelli, Dea
Practicum Site: East Boston Neighborhood Health Center
Location: Boston, MA
Title: Intern: Administrative and Elder Service Plan

Introduction: For over 40 years, the East Boston Neighborhood Health Center (EBNHC) has been bringing patient centered care to East Boston, which historically has a diverse population that largely consists of immigrants. EBNHC is undergoing a five year strategic plan that is aiming to improve: efficiency, quality, unity and growth. The main focus of this internship addressed efficiency and quality within the OB/GYN department.

Methods: The project role was that of an internal operations consultant and worked primarily with the Vice President of Operations (VPO) the Clinical Administrative Director (CAD) of the OB/GYN department. Introductory meetings were conducted to understand the dynamic of the health center and the OB/GYN department. Next, both clinical and administrative staff in the department were interviewed. Their workflows were documented and staff was then probed about potential department improvements. These roles were also shadowed to more fully understand their workflows. A report compilation of findings and suggested solutions was then presented to the VPO and CAD.

Results/Outcomes: The project in the OB/GYN department highlighted both known and unknown issues within the department. For example, while it was clear that the department was understaffed it was not clear that many job duties in the clinic overlapped and these workflows could be simplified. The department also struggled to stay on track of all the issues they wanted to address. Now these issues are clearly documented with a concise work plan designed to address them in the future which will aid the department in achieving its goals.

Name: Bissex, Carolyn
Practicum Site: Veterans' Affairs Boston Health Care System
Location: Boston, MA
Title: Health Systems Administrative Intern at VA Boston Healthcare System

Introduction: The VA Boston Healthcare System offers comprehensive training opportunities to over 3,000 aspiring health care professionals every year. This project examined the efficiency of the trainee application process and the administrative burden of various steps of the process. By integrating with VA Boston's Education Office, it became clear that both trainees and administrators believe that the process could be made more efficient with thoughtful and systematic change; however, no major steps had been taken. Improvements to this administrative process have the potential to improve patient outcomes and reduce administrative and clinical waste.

Methods: This project involved working closely with the Education Office to create a comprehensive survey to email to individuals who have trained at VA Boston in the past year. The purpose of the survey is to identify delays that trainees may have experienced and pinpoint potential sources of these delays. Further analysis will identify ways in which these delays translate into waste for the health care system.

Results/Outcomes: Preliminary findings indicate that individuals experienced delays in one or more steps of the administrative process. Further analysis will specify explicit sources of delay, which will guide process improvement efforts. The root cause(s) of delays will be addressed strategically in an attempt to improve the process and reduce waste at VA Boston and potentially VA health care systems nationwide. A reduction in waste will free up more time and resources to be dedicated to providing top quality health care for the Veterans we serve.

Name: Cho, Jonathan
Practicum Site: Boston Veterans' Affairs Healthcare System
Location: West Roxbury, MA
Title: Medical & Health Administrative Intern

Introduction: The practicum includes aspects of systems redesign and financial budgeting. I will work closely with the Pharmacy Department and Logistics at VA Boston to create a tracking system which serves to identify and calculate the appropriate inventory and national standard for prescription medicine. The goal is to increase the number of drug turns, which is a measure used to calculate how often drug inventory is being used, by developing a tracking tool that aims to lower costs, reduce waste, and raise the efficiency of the pharmacy department.

Methods: I have created a combination contract spreadsheet and an open market pricing report that updates in real time to track the ongoing drug contracts and purchases that occur at the VA Boston. I am also in the process of developing a Cost Change Report, which can be used to compare changes in drug prices dating back five years in the pharmacy department. These tracking tools will simplify the inventory drug turn calculations, which will aid in providing an accurate measure of drug prescriptions and use at the hospital.

Results/Projected Results: By vastly streamlining the tracking tool system, I believe that the Pharmacy department will see a sharp increase in the calculated number of drug turns, with lower costs and waste reduction. The result will be a more efficiently run Pharmacy department that is able to stay within hospital budget guidelines.

HEALTH POLICY & MANAGEMENT

Name: Clear, Caitlin
Practicum Site: Massachusetts General Hospital
Location: Boston, MA
Title: Developing a Population Health Management Readiness Assessment Tool

Introduction: Massachusetts General Hospital (MGH) Network Development and Partners HealthCare Population Health Management (PHS PHM) are working together to optimize and enhance population health management services among existing MGH affiliates and potential prospects. Division leadership identified the need to be able to evaluate the organizational readiness of these health care entities to implement population health management initiatives. The purpose of this practicum was to develop a simplified *PHM Readiness Assessment Tool* for MGH to use in this context.

Methods: This practicum entailed working with MGH Network Development and PHS PHM directors to complete the following activities: (1) conduct a comprehensive literature review of existing population health management readiness assessment tools, (2) synthesize themes and define categories of existing tools, (3) revise and finalize a draft of the MGH *PHM Readiness Assessment Tool* based on literature review and synthesis.

Results/Outcomes: The final outcome of this practicum is a functional *PHM Readiness Assessment Tool* for MGH to use with existing affiliates and potential prospects. The developed tool exhibits six major categories and a series of critical population health management competencies. As interest in population health management increases, MGH seeks the opportunity to collaborate with other health care organizations by offering services, products, and expertise. This tool serves to advance population health priorities as health care progresses towards models of value-based care.

Name: Dakwahene, Abena
Practicum Site: Health Resources in Action
Location: Boston, MA
Title: Massachusetts Asthma Action Partnership Intern

Introduction: Health Resources in Action (HRiA) is a public health organization that provides consulting services and develops programs for a wide range of private and public sector clients to promote healthier lives and communities in the Commonwealth. The Massachusetts Asthma Action Partnership (MAAP) internship was housed in the policy and practice department, which collaborates with government entities, health care providers and payers, policy makers, and community organizations to build innovative systems and foster effective, broad-reaching policy and environmental approaches to tackle health issues. The rationale for the project was to work with community partners and provide tools to reduce asthma health disparities and improve the quality of life for people with asthma.

Methods: The responsibilities of the internship was to create fact sheets for a policy toolkit that will enable schools to create an asthma-friendly environment; support MAAP in preparation for the annual summit focused on how climate change can affect people living with asthma; and, provide resources to encourage schools to purchase green cleaning products through the Environmental Preferable Purchasing (EPP) program.

Results/Outcomes: Two fact sheets about integrated pest management and the importance of replacing bleach wipes with asthma-friendly cleaning wipes were created for the toolkit. Health impact assessment case studies were developed and used as learning tools for the summit which hosted 40 public health professionals. A survey and progress report were created for school districts to assess their use with the EPP. Overall, these outcomes were used for asthma education and policy decisions for schools and policymakers.

Name: DiTullio, Brittany
Practicum Site: Pediatric Associates of Norwood and Franklin, P.C.
Location: Norwood, MA
Title: Pediatric Associates of Norwood and Franklin PCMH Coordinator/Administrative Assistant

Introduction: Working alongside the Practice Manager at Pediatric Associates of Norwood and Franklin (PANF), I assisted in completing the application for the practice to become certified as a Patient Centered Medical Home (PCMH). The goal of PANF becoming recognized as a PCMH identifies the practice as one that encompasses five functions and attributes: comprehensive care, patient-centered, coordinated care, accessible services, and quality and safety. The purpose of this practicum was to help identify how the office can meet these five standards by writing processes and showing proof of providing routine and urgent needs of patients at all times, continuity of care and using culturally and linguistically appropriate team based approaches, addressing population health management, care coordination and care transitions, performance measurement and quality improvement.

Methods: I worked with the Practice Manager of PANF to write processes and show proof of meeting all five standards, which included examining preventive care services, immunizations, chronic and acute services, medication monitoring, and identifying patients not recently seen. Standards that measured performance and population health management required contacting patients, implementing patient surveys, and analyzing collected survey data to identify where office improvements should be made.

Results/Outcomes: By assisting PANF in completing their application, they will be on track to submit for review later in 2016. New office policies will be put in place by administration based on standard data to ensure PANF is delivering advanced core functions of primary health care.

HEALTH POLICY & MANAGEMENT

Name: Ellwanger, Erin
Practicum Site: Atrius Health
Location: Newton, MA
Title: Population Health Student Intern

Introduction: In 2015, Atrius Health ranked as the highest achieving Pioneer Accountable Care Organization (ACO) in New England in its overall quality score. The Medicare Pioneer ACO program is set to expire at the end of this year (2016) and my role this summer as a student intern was to assist the Population Health team in the application process for both MSSP and NGACO for 2017. The final decision between the two programs was decided by the Board of Directors of Atrius at the end of July.

Methods: I prepared and completed application and other materials for both MSSP and Next Generation ACO. I assisted in creating presentations for the Executive and Finance Boards comparing/contrasting the MSSP and NGACO programs. Once the board decided on moving forward with NGACO, I began to research Atrius Health's opportunity to offer new "benefit enhancements" under the NGACO model, specifically telehealth expansion and post discharge home visits.

Results/Outcomes: The final presentation to the board outlined why Next Generation ACO was the preferred option for 2017. It included a financial modeling component showing how NGACO maximized financial opportunity for Atrius Health. It also summarized several other advantages that NGACO had over MSSP, including why CMMI is the preferred Medicare partner because Atrius Health can help shape changes to the program in the coming years

Name: Gonzalez, Yolanda
Practicum Site: Veterans Affairs Boston Healthcare Systems
Location: Boston, MA
Title: Health Systems Administrative Intern

Introduction: The VA Boston Healthcare System (VABHS) is comprised of three medical campuses and is a highly complex level 1A healthcare organization. VABHS executive leaders have identified same-day scheduling as one of their key access projects for this year in an effort to increase patient satisfaction and clinic efficiency. Leadership has focused on piloting these efforts in Dermatology and Optometry with a focus on referrals from Primary Care (PC) to these Specialty Care (SC) clinics.

Methods: Primary Care physicians were asked to complete referrals prior to the Veteran's departure from the clinic. Due to the close proximity of PC from SC (Dermatology and Optometry) Medical Support Assistants (MSAs) in PC took note of consults and directed Veterans to SC clinics to schedule their next appointment, eliminating the need to schedule a future initial appointment for the Veteran. Data analysis will be conducted on the following three measures: Average wait times from when the referral was submitted to when the patient was seen, number of missed opportunities/no-shows, and time from when the referral was submitted to when the referral was scheduled.

Results/Outcomes: The Projected outcomes are: 1) decrease in missed opportunities/no-shows; 2) Decrease in discontinued referrals; 3) reduction in overall wait time for SC appointment; 4) Improved efficiency in the SC clinic relate to scheduling effort; 5) increase in Veteran satisfaction.

Name: Greenwood, Megan
Practicum Site: Massachusetts State House
Location: Boston, MA
Title: Public Health Policy Intern

Introduction: The Joint Committee on Public Health considers all matter concerning public health for the Commonwealth of Massachusetts brought to the legislature. The committee is co-chaired by Representative Kate Hogan and Senator Jason Lewis and contains both members from the House and Senate. This practicum focused on working on assisting committee staff in the reporting of public health bills, research on bills and budget items, and assisting in activities for the end of the legislative session.

Methods: This practicum included health policy research on bills concerning tobacco, Lyme disease, equity for organ transplants for those with mental disabilities, Zika virus, nurse practitioner licensing, and marijuana legalization. Stakeholder meetings on various public health topics were attended and essential information was reported back to committee staff and Representative Kate Hogan. One project entailed extensive policy research for a redraft of the bill: An Act Concerning Nondiscrimination in Access to Organ Transplantation, H.4332.

Results/Outcomes: The new draft H.4332 was submitted and reported favorably by the Committee on Public Health. It was referred to the Health Care Financing committee who recommended an amendment and went through the reading processing and is now in the Senate Rules committee pending their decision. This act would have a substantial impact on health care for those with mental disabilities.

HEALTH POLICY & MANAGEMENT

Name: Ha, Lyncy
Practicum Site: Office of Inspector General - Office of Evaluation and Inspections
Location: Boston, MA
Title: Social Science Research Analyst (Intern)

Introduction: The practicum site is the Boston Office of Evaluation and Inspections (OEI) within the Office of the Inspector General (OIG) of the United States Department of Health and Human Services (OIG-HHS)

Methods: OEI uses mixed methodologies to conduct national evaluations of HHS programs that results in public written reports with findings and recommendations directed to the leadership of the programs. Topical areas OEI are involved with include program integrity, quality of care, efficiency, and effectiveness of programs. I contributed as a team member alongside permanent OEI analysts on two main projects: an assessment of the independence of the HHS Office of Human Research Protections and an evaluation of Medicare beneficiaries' access to durable medical equipment (DME). On the former, I assisted with the collection and analysis of data from research institutions funded by HHS and interviews with experts in the field of human subject protections. On the latter I collected and analyzed data for nationwide samples of Medicare beneficiaries who used DME. For both projects, I worked with the team to interpret the data we collected and analyzed to formulate findings that will go into final, public reports.

Results/Outcomes: Results remain private until the final report has been approved. We plan to release the two final reports by end of Summer 2016 or early Fall 2016.

Name: Herrera Canales, Vania
Practicum Site: Massachusetts State House
Location: Boston, MA
Title: Joint Committee on Health Care Financing Intern

Introduction: The Massachusetts Joint Committee on Health Care Financing is composed of members from both the Senate and the House of Representatives. The committee is responsible for addressing all matters regarding health care program funding, public health assistance, publicly funded health care (MassHealth, Medicaid, Medicare, etc.), and all other fiscal health care policy issues. The practicum's sponsor was Representative Jeffery Sanchez, co-chair of the committee and democratic representative to Jamaica Plain.

Methods: The practicum included various activities such as: attending public and private meetings, writing office memorandums, and research projects. A large proportion of meetings focused on payment reform and provider price variation. Other meetings involved stakeholder providers for mental health, opioid crisis management, and substance abuse programs. Short term projects included researching current first responder needle-stick injury safety laws, stakeholder views and comments on impending SEIU ballot, and press releases after Governor Baker's provider price variation capitol hill announcement. The long-term research project focused on creating a comprehensive document on price transparency and price variation. The document included laws and programs addressing and increasing price transparency as employed by various states.

Results/Projected Outcomes: A 20-member commission has been formed by Representative Sanchez and his co-chair to discuss price variation and transparency. The practicum research projects will be used by the Representative as foundational knowledge for the commission. By using the created document and other resources, the commission will develop a set of "acceptable factors" as the basis for the existence of price variation among Massachusetts providers.

Name: Iorio, Rhiannon
Practicum Site: BUMC Center for Implementation and Improvement Sciences
Location: Boston, MA
Title: Assistant Program Administrator

Introduction: The Center for Implementation and Improvement Sciences (CIIS) is a methodological hub for the scientific evaluation of efforts to improve healthcare delivery that integrates key components of implementation and improvement sciences. The center needed support immersing itself within Boston University School of Medicine (BUSM), making itself known, and expanding. The purpose of my practicum was to hold an administrative role where I learned how to manage and develop a new center within an academic medical center.

Methods: In order to track the center's progress and initiatives, I began implementing a project management tool, creating strategy tracking tools and a business plan, and using Tableau to analyze progress. To ensure people learned about CIIS, we had various consultations with different departments within BUSM and Boston Medical Center to teach researchers about implementation science. To further develop our center, we collaborated with the University of Colorado's Evaluation Hub to gain insight into how to make CIIS flourish.

Results/Outcomes: As a result of the practicum, CIIS has a robust website with various theoretical resources and implementation science articles. Attendance at monthly Implementation in Progress meetings has increased. Google analytics has shown a significant increase in twitter and website views. The pilot grant program received 21 applicants which represents faculty who are interested in working with CIIS. Our future goals are to continue developing and acquire implementation projects in the prospective phase to make research projects successful.

HEALTH POLICY & MANAGEMENT

Name: Jang, Suk Won (Steve)
Practicum Site: Center for Health Information and Analysis
Location: Boston, MA
Title: Health Policy Analyst Intern

Introduction: Center for Health Information and Analysis was established in response to the unsustainable growth of health care costs in Massachusetts. With the health care cost containment law, the center is statutorily responsible to collect health care information from payers, providers and various different health care organizations and analyze the trend of health care costs and quality in the Commonwealth. Under the Health Analytics and Finance division, the intern was responsible for two main projects; 1) production of the annual report on the performances of the system in MA and 2) production of patient origin map by disease categories.

Methods: In the Annual report, the student was mainly responsible for analyzing the adoption and growth of alternative payment method. The student also analyzed the spatial distribution of low birth weights and preventable hospitable admission in the Commonwealth, using hospital inpatient discharge data and PQI index from AHRQ. This was compared against the area deprivation index [ADI] to evaluate the correlation between social determinants and the outcomes.

Results/Outcomes: The Annual Report will be published on September. County-level ADI were significantly and strongly correlated with measured health outcomes whereas only asthma was correlated with zip code-level. Southern coastal regions such as Fall River, New Bedford and Cape and Islands regions were hot-spots for all PQI outcomes. Hypertensions were highly concentrated in Eastern Massachusetts. Health status adjusted total medical expenses were also concentrated in the aforementioned regions, though areas with most deprived had relatively lower TME, compared to the region.

Name: Leestma, Emma
Practicum Site: Massachusetts General Hospital/Massachusetts General Physician Organization
Location: Boston, MA
Title: OPPE Environmental Scan at Massachusetts General Hospital

Introduction: The Strategic Communications and Physician Incentive Programs Department is responsible for managing quality measures, including mandates from The Joint Commission (TJC), for the Massachusetts General Hospital (MGH). In 2008, TJC mandated all performance data for privileged providers be assessed on an ongoing basis. This process, with its room for interpretation, became known as Ongoing Professional Practice Evaluation (OPPE). The purpose of this practicum was to gather information about how other healthcare systems in the United States are approaching OPPE and to use the information to help guide MGH's OPPE process.

Methods: This practicum involved becoming familiar with MGH's approach towards OPPE and using this knowledge and insight from chairs of the Professional Practice Assessment Steering Committee, which handles OPPE at MGH, to conduct a survey. The survey was distributed to three University HealthSystem Consortium listservers that have subscribers across the United States. Responses were documented, data was interpreted, and results were shared with MGH and the 18 participating healthcare organizations.

Results/Outcomes: This practicum provided insight into how other healthcare organizations handle OPPE. The survey found that the majority of work surrounding OPPE falls on preexisting job positions, over forty data sources are being used for OPPE according to this survey's responses, many organizations use OPPE measures that MGH would not allow, most organizations have no minimum requirement of measures per provider, and a handful of organizations store OPPE data centrally with no need to audit. MGH will use these results to update their approach towards OPPE.

Name: Leimkuhler, Rebecca
Practicum Site: Boston Children's Hospital
Location: Boston, MA
Title: Neurology Quality Improvement

Introduction: When a pediatric patient is transitioning from an inpatient to outpatient setting it can be complicated for their caregivers to understand the treatment plan and implications of medications and test results outside of the hospital. Within the Neurology Department there is an increased complexity of patient profile, making the transition even more challenging. In this project a standardized template has been created to ensure an easier process for discharging providers. Simultaneously there will be improved care coordination, lessening readmissions. Within both the Neurology and Epilepsy services, unplanned readmissions are higher than they should be, especially for the seizure patient population.

Methods: First, a root cause analysis and Driver diagram were performed to assess where an intervention would be most impactful. After qualitative interviews with providers and patient caregivers, the templates were written. PDSA cycles are being completed in rounds to get the template programmed into provider profiles on PowerChart and assure it is comprehensive enough to eventually ensure no preventable readmissions. Calls are given weekly to caregivers who went home with the template to assess knowledge levels and understanding of seizure action plans.

Results/Projected Outcomes: A template will be released for Neurology's second largest patient population, headaches. By the end of the calendar year, the aim is to have a third more general template for all discharges and 80% provider usage of templates. After stakeholder meetings, the template has undergone various edits. The seizure template has seen an increase in utilization, up to 70% of all seizure discharges by the second week of August.

HEALTH POLICY & MANAGEMENT

Name: Leonardi, Jennifer
Practicum Site: Partners Healthcare Corporate Finance
Location: Charlestown, MA
Title: Decision Support Intern

Introduction: Partners HealthCare is a hospital system founded by two academic teaching hospitals—Massachusetts General Hospital and Brigham and Women’s Hospital. Partners HealthCare also includes community hospitals, a managed care organization, community health centers, a physician network, and other healthcare organizations. The aim of the Decision Support internship was to increase exposure and understanding of healthcare finance, specifically how charges are determined for specific services across the Partners HealthCare acute hospitals.

Methods: The project required the use of EPSi, a financial and accounting system that determines financial, clinical, and operational information to promote quality improvement throughout the healthcare system. Using information within EPSi, a product line database and a relative value unit (RVU) database were developed. The product line database displays specific coding for services, where charges are derived from, and the value of each charge accompanied with a description of what the charge entails. The RVU database reflects current RVUs for cost centers, as well as the logic behind determining RVUs for services offered at Partners HealthCare.

Results/Outcomes: It is proposed that by creating two databases, specific employees at all Partners HealthCare acute hospitals will be able to access the information and understand the logic that derives that particular field and understand how the different fields are derived. The information within the database is classified in a clear, concise way, which promotes both efficiency and consistency across all Partners HealthCare acute hospitals.

Name: McCollam, Andrea
Practicum Site: Boston Children's Hospital
Location: Boston, MA
Title: Patient Financial Complaints Deep Dive

Introduction: Boston Children’s Hospital (BCH) is a national leader in pediatric health care. For the second consecutive year, it has been named U.S. News and World Report’s #1 Children’s Hospital in the United States. The Enterprise Project Management Office (EPMO) provides project management support to departments within BCH, especially for initiatives to improve patient access to care. The EPMO applies Lean Six Sigma methodologies to these projects. The EPMO has identified Patient Financial Complaints (PFCs) as an important piece of the institution-wide project to improve the Enterprise Revenue Cycle. They are a source of patient dissatisfaction and potentially lost revenue.

Methods: In order to better understand the characteristics of PFCs, 161 relevant complaint cases were identified and analyzed in-depth. An exploratory quantitative analysis was performed, followed by an extensive qualitative analysis of the case notes. The aim of this analysis was to identify common characteristics of PFCs and better understand them.

Results/Outcomes: Through analyzing this data, a model was developed to categorize PFCs which come in to BCH. An explicit definition for PFCs was devised, as was a framework to comprehensively group PFCs into four non-exclusive categories of complaints. With this structure, Patient Financial Services and other administrative departments are better equipped to identify, monitor, and preemptively address the root causes of PFCs, potentially improving patient satisfaction.

Name: Moore, Jennifer
Practicum Site: Charles Group Consulting
Location: Boston, MA
Title: Government Affairs Intern

Introduction: Charles Group Consulting is a full service government affairs consulting firm offering individually-tailored services to non-profit organizations, businesses, and community and membership-based organizations. CGC is values-driven and results-oriented, specializing in getting the voices of disaffected groups heard in the Legislature, media, government agencies, and in the community. On Beacon Hill, we have successfully negotiated and lobbied on some of the most complex and controversial issues facing Massachusetts in the Public Health arena.

Methods: Interns assist the firm in all aspects of government affairs consulting and have a unique opportunity to shadow professional lobbyists at the Massachusetts State House. Interns work closely with legislators and clients to influence and negotiate favorable legislative outcomes. My responsibilities include: drafting memos on behalf of clients, attending meeting or hearings on behalf of clients at the State House, analyzing current news in relation to clients, assisting in client legislative strategy, drafting correspondence to clients, drafting correspondence to policy makers, attending client meetings, legislative hearings, and/or legislative sessions to monitor issues of importance to clients, research and analysis of outcomes of the legislative session and budget cycle in relation to current and/or potential clients, preparing and drafting outcome reports for clients, and strategizing future goals for current and potential clients.

Results/Projected Outcomes: My goal is to assist the lobbyists in succeeding on behalf of clients within the fiscal budget, legislative agendas, and analysis of those outcomes following the completion of the legislative session.

HEALTH POLICY & MANAGEMENT

Name: Nuth, Pauline

Practicum Site: Massachusetts Department of Public Health

Location: Boston, MA

Title: Graduate Student Intern, Performance Management and Quality Improvement

Introduction: The Massachusetts Department of Public Health (MDPH) is committed to fostering a strong culture of quality improvement (QI) as a proven way to enhance an organization's performance and achieve desired results. There have been inconsistent and varying processes for prioritizing, selecting, and initiating cross-program QI projects. The project aim was to pilot a variety of tools to increase staff awareness of the department's six QI Priorities and assesses their understanding.

Methods: Three main pilot projects were designed and tested from June through August 2016. Series of Plan-Do-Study-Act (PDSA) cycles were conducted based upon findings gained from a literature review, participation in QI trainings, application of Lean Six-Sigma tools, and feedback from stakeholders. For Pilot 1, a systems-thinking model for MDPH using the Quality as a Business Strategy (QBS) framework was developed. For Pilot 2, a conceptual framework to better communicate the vision of QI was developed. For Pilot 3, a retrospective end-of-training evaluation form to measure change in knowledge, behavior, and application of the QI methodologies and QI Priorities was developed.

Results/Outcomes: Pilot 1 underwent four PDSA cycles and was abandoned based on stakeholder feedback. Pilot 2 and Pilot 3 were both successful and will be formally adopted by the department and be used for the basis of QI training moving forward. These tools provide a foundation to support further refinement as the department's vision and priorities for QI evolve overtime, and serve as a model that can be revised for more specific objectives in cross-program QI projects.

Name: Pearse, Madeline

Practicum Site: Massachusetts State House, Representative Jeffrey Sanchez

Location: Boston, MA

Title: Transparency and Consumer Incentives Impact on Provider Price Variation within Massachusetts

Introduction: The governor recently signed into law HB4348, An Act Relative to Equitable Health Care Pricing. Among other things, this law creates a twenty-three member special commission to explore the issue of provider price variation in the Commonwealth. The special commission is comprised of stakeholders in various health care sectors, including members of the legislature, the administration and industry. At the Joint Committee of Health Care Finance, I researched price transparency and consumer incentives and their relationship to provider price variation.

Methods: I researched the status of price transparency and how insurance plan design can impact consumer behavior. I explored several financial research journals, data collected by the Center for Health Information and Analysis, and Health Policy Commission reports. I charted graphs, created tables, and used over sixty sources to support my writing.

Results/Outcomes: My final project consists of a memorandum that will both help the Health Care Financing staff prepare for meetings on this topic and serve as a template in the final written report. The goal of the special commission is to explore how these tools may help address the issue of high costs of care in Massachusetts. I found that insurance plan design, price transparency tools, and consumer education can be effective tools to influence consumer behavior, but these tools alone cannot fix the issue. My research seeks to inform the special commission about plan design and price transparency in the hope that the stakeholders recommend these tools as a part of a multidimensional approach to reduce provider price variation.

Name: Prendergast, Kelsey

Practicum Site: MA Department of Public Health

Location: Belmont, MA

Title: Department of Public Health Intern - Belmont, MA

Introduction: The unprecedented increase in mortality rates from pain reliever opioid overdoses has sparked a public health crisis in need of public health education and awareness. The public needs to be familiar with public health methods to prevent addiction of prescription opioids (Vicodin, Percocet, codeine, OxyContin). Middlesex County had 293 opioid overdose deaths in 2015, which is more than double the deaths from 2013 (Mass.gov). Despite the opioid epidemic devastating communities across Massachusetts, towns such as Belmont are hesitant to acknowledge the gravity of the issue. An opioid awareness campaign including educational flyers with statistics and examples will bring the community together to understand the opioid issue.

Methods: This campaign was conducted through gathering resources, data and information from the Belmont Fire and Police Department, school system, support groups, hospitals and the surrounding town (Watertown) task force. Data was obtained from the Belmont Fire Department EMT dispatch report as well as Mass.gov for public overdose statistics. Transcriptions of the Watertown Task Force meetings were used to identify prevention methods, educational opportunities and treatment options.

Results/Outcomes: The flyers were created as a 1 page resource that would offer education, advice and resources. Flyers answered questions such as what are opioids, who are at risk, what are signs of abuse, what is the prevalence, how to be proactive and where to seek help. Although, the flyers are expected to encourage Belmont to acknowledge the opioid issue, further steps are needed. Flyers will be posted in public buildings and shared via social media.

HEALTH POLICY & MANAGEMENT

Name: Qian, Yiran

Practicum Site: Tufts Medical Center - Center for Evaluation of Value and Risk in Health

Location: Boston, MA

Title: Health Economics Intern

Introduction: The Center for the Evaluation of Value and Risk in Health (CEVR) is a part of the Institute for Clinical Research and Health Policy Studies at Tufts Medical Center. With the mission to analyze the strategies that improve health and to communicate the findings with clinicians and policymakers, CEVR undertakes scientific research projects, works with policymakers to develop policy solutions and maintains the Global Cost Effectiveness Analysis (CEA) Registry, a comprehensive database containing standardized CEA ratios and utility weights published in peer-reviewed journals. The main purpose of this practicum was to manage the incorporation of new content for the Registry.

Methods: I conducted a systematic literature review with emphasis on extracting methods, models, ratios and health utilities data pertinent to published health economic evaluations and cost-effectiveness studies. The extracted data is analyzed and assessed using Microsoft Access by calculating health benefits and incremental costs. Consensus meeting with fellow reviewers was held during every reading round to make decisions on the incorporation of new content for the CEA Registry.

Results/Outcomes: A variety of health and medical interventions were assessed, including drugs, screenings, immunizations and surgeries captured during the literature review. Overall, the most frequent time horizon used was lifetime, the cost were estimated mainly from the payer's perspective and the most common outcome was "more cost, more quality adjusted life-year", though models greatly differed by many other specific parameters. The incorporation from these consensus articles will remain in the CEA Registry, helping measure and communicating the clinical and economic value of health care strategies.

Name: Reddy, Haritha

Practicum Site: Boston Children's Hospital

Location: Boston, MA

Title: Quality Improvement Intern, Trivox Health

Introduction: TriVox Health is a web-based patient monitoring and management system for children with chronic diseases. The system allows parents and teachers to complete questionnaires about a child's symptoms and function at regular intervals, and processes the information into a format that clinicians can easily interpret and use to guide medical decision-making. It is currently being implemented in multiple departments at Boston Children's Hospital, and thus far, each clinic has integrated TriVox in a way that is most conducive to daily practices. The Martha Eliot Clinic in particular sought to increase enrollment numbers in the most effective manner possible, while simultaneously improving response to patient ACT (Asthma Control Test) scores.

Methods: The methodology was based on observing multiple patient interactions with clinical staff in order to ascertain whether the as-is process for treating patients was standardized, and determining where TriVox should be implemented. A process flowchart was created to outline the activities observed, and was engineered throughout the course of this project until a to-be process was determined to be systemically applicable.

Results/Outcomes: After engineering the map, it became apparent that staff responsibilities and daily activities that did not previously include the use of TriVox would need to be adjusted in order to ensure that the new system would be incorporated successfully. We predict that this new standardized workflow process will aid in both increasing the number of patients involved in TriVox, as well as bring attention to low ACT scores during visits.

Name: Sarabu, Jyothi

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: Residents Panel Information Management Intern at Department of Internal Medicine at BMC

Introduction: Residents at BMC are required to enroll in programs meant to increase patient safety and quality of care by the American College of Graduate Medical Education. The Patient Improvement Module (PIM) has therefore been integrated in the Residents curriculum before and after residents delivered care to their assigned patients of their cycle. Indications of PIM's effectiveness are inferred from survey before and after PIM intervention and the care delivery in vaccinations and obesity treatment to residents' assigned patients.

Research Methods: Pre and Post intervention, Obesity, and Vaccination excel spreadsheets were further analyzed through organizing spreadsheets and creating bar graphs. The data was organized by transposing resident data, and patient obesity records. The hard copies of the Pre and Post Intervention Data and suggestions to improve PIM were entered in to spreadsheets. Bar Graphs were created from the categorized data. ANOVA tests were additionally performed in SAS on Pre and Post survey questions regarding PIM. The analyzed and reported on Obesity Treatment and Vaccination were used to confirm any observations on the Pre-intervention and Post-intervention data.

Results/Outcomes: Analyses from data sets infers residents believe PIM is imperative to improve patient safety and quality in healthcare delivery for Obesity and Vaccination, yet could effectively enhance efforts through more collaboration faculty and MPH students.

HEALTH POLICY & MANAGEMENT

Name: Shah, Priyam
Practicum Site: Best Doctors
Location: Boston, MA
Title: Salesforce Implementation

Introduction: Best Doctors offers unique medical consultation services linking the world's leading medical experts with a member population with personal health challenges. The cycle of communication to support said services requires global process coordination and integration with internal systems in a secure and controlled environment to replace the numerous disconnected systems that are currently in place. Best Doctors employed Salesforce, a cloud-based CRM solution, to drive organization-wide scalability, profitability, and quality to alleviate waste and organizational cost.

Methods: The team employed a project plan to orchestrate an incremental implementation of Salesforce in the US region to gradually retire legacy systems by service line, the simplest to the most complex. The plan required documentation of the current state end-to-end business process and business requirements for each service line, to then translate into a future-state technical solution. An Agile methodology was employed for the Business Intelligence, Application Development, and Quality Assurance teams to build solutions in 2-week sprint cycles, followed by Acceptance Testing to capture critical issues for remediation prior to the first official launch.

Results/Outcomes: The Acceptance Testing revealed no critical blockers for Go Live on our scheduled date of June 29th. As a result of cross-functional collaboration, the first incremental launch of Salesforce is a success and no critical issues are reported till date for the end-to-end process. This regional success in the US region paved forward a strategy to onboard the Canadian, European, and Asian regions onto Salesforce to scale the business globally.

Name: Sinha, Vinayak
Practicum Site: Partners Healthcare Corporate Finance
Location: Charlestown, MA
Title: Consequences of the Inclusion of Socio-Economic Status on Medicare Readmissions Measures

Introduction: The hospital community has long pushed for the inclusion of socio-economic status (SES) of their patients to be taken into account during formulation of quality measures. The Medicare Hospital Readmission Reduction Program seeks to use inpatient readmissions measures to penalize hospitals with excess readmissions. In 2016, the House of Representatives passed an act that calls for SES to be considered by the Center for Medicare and Medicaid Services when computing penalties through a stratification of hospitals based on their proportions of dual eligible Medicare Part A and Medicaid patients. Analysis conducted in this project focuses on assessing how this will impact the readmission ratios and financial penalties of Partners HealthCare hospitals.

Methods: Data on the proportion of dual eligible patients for inpatient acute hospitals nationwide is not available, thus a relevant proxy, Medicare supplemental security income ratio, was utilized to stratify hospitals into deciles. Using publicly available nationwide readmission ratio data for each of the five readmission measures for fiscal year 2016, analysis was conducted to compare hospitals within their deciles and at the national level.

Results: Data visualization shows that there are minor changes when comparing hospitals to their group averages instead of their national averages. Overall, hospitals fared worse when compared to decile averages than the national average, but variance was small. These results may be based on the use of an ineffective stratification process to capture the impact of SES on readmission measures or may be the result of a low impact of SES on measures.

Name: Smith, Danielle
Practicum Site: East Boston Neighborhood Health Center
Location: Boston, MA
Title: Administrative/ESP Intern

Introduction: The East Boston Neighborhood Health Center has launched a five year strategic plan with the goal of maintaining positive growth in the health center and improving the quality of care patients receive. The focus of this practicum is quality improvement in the pediatric walk-in clinic. The practicum scope addresses concerns in provider and staff workflow /scheduling and redesigning use of clinical space, with the goal of proposing a new pediatric walk-in model for strategic plan approval by the VP team.

Methods: This practicum involved 1) shadowing /conducting individual interviews with the pediatric staff in order to document current workflow and identify key areas for change 2) organizing a clinical workgroup composed of doctors, nurses, medical assistants, registration personnel, and the VP of health operations that met weekly to draft an action based plan/new pediatric walk-in model that addressed all issues identified during workflow documentation 3) conducting online research to gather data on best practices at other walk-in and urgent care clinics 4) collaborating with project managers to draft scope/ charter/ and financial documents for the project.

Results/Outcomes: A strategic plan proposal was developed which included new provider workflows, a new nurse-triage and registration model, a new staffing model, and relocation of the pediatric walk-in clinic allowing providers to treat their large volume of patients. The assessment phase of the plan has been approved by the VP team; the workgroup will begin the roll out phase in the fall with the goal of improving the quality of patient care.

HEALTH POLICY & MANAGEMENT

Name: Smith, Emily
Practicum Site: Iora Health
Location: Boston, MA
Title: Referral Coordinator

Introduction: Iora Health is a national healthcare organization founded on the belief that, as an industry, we need to rebuild the healthcare system to put patients' wants and needs first and ultimately, restore humanity to healthcare. Patients enjoy the benefits of better access to care, in-office or remote care, transparent medical records, and the ability to form relationships with providers and care teams. The Humana Referrals Pilot project revolves around improving the referrals process for the Humana sponsored practice sites in Shoreline, WA and Peoria, AZ. The referrals and prior authorization processes have been a great pain point for Iora practices in these markets due to confusion around the processes and portals required to obtain confirmation for each different type of referral or prior authorization, as well as the complicated nature of the processes themselves.

Methods: To gain a full understanding of the current process and areas needing improvement, the Referral Coordinator spent 2 weeks completing site research and training both at The Nest in Boston and through on-site visits at both locations. All requests for referrals and prior authorizations were then outsourced to the Referrals Coordinator from the Shoreline and Peoria practices to understand what these major pain points are, why these issues are happening, and possible improvements to standardize and streamline the process.

Results/Outcomes: This pilot will serve as an opportunity to evaluate the addition of centralized referral coordinators in the future, educate expanding markets, and develop standardized training documents on the referrals and prior authorization processes for new employees.

Name: Snow, Christine
Practicum Site: Veterans Affairs Boston Healthcare Systems
Location: Boston, MA
Title: Health Systems Student Trainee (Director's Office)

Introduction: The VA Boston Healthcare System (VA BHS) is one of the most complex health systems in the Department of Veteran's Affairs with three campuses, over 5,000 employees and volunteers, and 659 beds. The goals of the VA BHS are to serve veterans with timely and quality care, to advance health care through research, and to train future health care providers. My project focuses on the latter by addressing the needs of the emerging workforce and by improving the recruitment and retention of young employees, which has been a pervasive problem in federal government agencies.

Methods: Create a project charter to present to stakeholders and hospital leadership, utilize the Human Center of Design methodologies to create journey maps for the employee experience, conduct qualitative surveys and interviews of young employees, and analyze data to formulate an action plan.

Results/Outcome: Design and implement an action plan to improve retention, reduce turnover, and increase engagement among young employees. The overall projected outcome will be a greater understanding of how to strengthen the VA's relationship with millennials. The NextGen Committee (a workforce development committee) will use this data to identify activities and interventions to improve overall employee satisfaction and promote professional development opportunities.

Name: Tamburello, Lauren
Practicum Site: Massachusetts General Hospital/Massachusetts General Physician Organization
Location: Boston, MA
Title: Summer Administrative Intern

Introduction: The MGH Department of Urology's Administrative Manager is working on establishing standardized clinical and centralized administrative workflows, which have become necessary as the Department prepares to move its ambulatory clinic space from the main hospital campus to a larger satellite location. This practicum focused on developing a centralized process for tracking vacation time of medical staff, including urology technicians, urologists, nurses, and advanced practice providers, in addition to designing clinical and administrative workflows to prospectively manage patients on active surveillance for prostate cancer.

Methods: Discussions with administrative staff led to process mapping to understand existing vacation request procedures. QGenda, a web-based scheduling software, was implemented creating a dynamic master schedule viewable to all staff and one place for staff to go to request time off. A meeting with the ambulatory E-care team was held to build an identifier in Epic and allow for report generation to capture patients with prostate cancer on active surveillance.

Results/Projected Outcomes: The projected outcomes are to use QGenda to utilize clinic space when providers are out of the office, which translates into increased patient visits, procedures and revenue for the Department. Also, QGenda will be used to ensure appropriate staffing levels of urology technicians and nurses. The active surveillance project aims to ensure that these patients are scheduled per protocol for follow up visits every six months and that patients are not lost to follow up.

HEALTH POLICY & MANAGEMENT

Name: Taveras, Adderlin

Practicum Site: Community Provider Network of Rhode Island

Location: Warwick, RI

Title: Professionalizing the Direct Support Professionals in Rhode Island to increase Quality and Retention in the Intellectual Developmental Community

Introduction: The Community Provider Network of Rhode Island (CPNRI) is an organization consisting of 25 agencies in an effort to combine services and resources for their members that serves the developmental disability community in Rhode Island. CPNRI mission is to support its members with highest standard of quality services promote and organize front line staff known as Direct Support Professionals (DSP) for training and development. With increase concern of low retention rate among DSP staff across the state, CPNRI is looking for solutions that agencies can implement and support to keep qualify DSP. The current project involved researching and collecting data on the Direct Support Professional in order to put together a comprehensive report on recommendations to improve quality workplace for DSP, quality of work practice and increasing retention rates.

Methods: The project assess and compiles a comprehensive report on the DSP population needs and solutions to professionalizing the DSP staff in order to increase retention rate, work place quality and lead to greater advocacy for increase wages by organizing the DSP staff and encouraging certification and continuing educational trainings in the field.

Results/Outcomes: The assessment and recommendation report shows that integrating a certification/licensing program, organizing DSP into a network may increase commitment to the field and increase support from State and agencies to increase benefits such as wages in the workplace.

Name: Thomson, Nicholas

Practicum Site: Massachusetts General Hospital

Location: Boston, MA

Title: Process Improvement Consultant Intern at Massachusetts General Hospital's (MGH) Orthopaedics Department

Introduction: Massachusetts General Hospital's (MGH) Orthopaedic department currently has an inefficient and inconsistent patient intake process. For the scope of this project, the patient intake process includes, any form a patient receives in the mail and any requested patient information at check-in and/or during the appointment. Ultimately, the aim of the project is to standardize the patient intake process across all Orthopaedic departments at MGH, in order to reduce the administrative burden on staff and to improve patient experiences.

Methods: As part of the Orthopaedic Administration team at MGH, I worked with several internal consultants and administrators to produce: 1.) An analysis of current state and 2.) Formulate future solutions. This process was a combination of several detailed process maps and time studies. The collection of this data was crucial to provide quantitative and qualitative evidence for the issues surrounding the current intake process.

Results/Outcomes: The results of the data collection highlighted that patients were spending, on average, 7 minutes completing intake forms and another 3 minutes completing information with the Medical Assistant. Therefore, these results provide quantitative evidence that there are issues with the intake process, which has fabricated a departmental push to solve these issues. The next steps are to formulate solutions to improve the intake process by completing Root Cause Analyses and gathering suggestions from various stakeholders. The culmination of this information will be a presentation to key physician leaders detailing various potential plans of action.

Name: Williams, Sarah

Practicum Site: Massachusetts General Hospital

Location: Boston, MA

Title: Process Improvement Consultant Intern at MGH's Department of Orthopedics

Introduction: The Orthopedic Department at Massachusetts General Hospital is looking to implement PROMs, patient reported outcome measures, into their already broken patient intake process. Currently, patient intake forms are cumbersome, time-consuming and redundant. Front desk staff is overwhelmed, questions remain regarding how widely intake forms are utilized by clinical staff, and surgeons and medical assistants face an overwhelming administrative burden. The aim of this project is to develop a proposal for a standardized patient intake process with the inclusion of PROMs across all MGH Orthopedic practices. Ultimately, the new process will improve patient and staff satisfaction and decrease administrative burden for physicians and front-desk staff.

Methods: Detailed process maps were created of all practices to compare intake processes across the department and identify root causes. To quantify the problem, time studies were conducted on the amount of time patients spent completing intake forms, time MAs reviewed intake information with the patient, and the time staff spent scanning and preparing intake paperwork. Finally, intake forms were compared across the department for redundancies and overlap.

Results/Outcomes: Thus far, results indicate that on average 13-18 minutes are spent reviewing intake information before the patient is even seen by a physician, and PROMs could add an additional 7 minutes. Department wide staff spends about 11 hours a week scanning patient intake forms. Moving forward, we are continuing to gather qualitative and quantitative data and develop our proposal for improvement that will be presented to all surgeons within the Orthopedic Department.

HEALTH POLICY & MANAGEMENT

Name: Xu, Linke

Practicum Site: Tufts Medical Center - Cost Effectiveness Analysis Registry

Location: Boston, MA

Title: Student Intern

Introduction: Cost-effectiveness analysis (CEA) compares relative costs and outcomes of two or more courses of action, which highlights the intervention with less expense and substantial effect. The CEA Registry, as a comprehensive database in Tufts Medical Center, summarizes and reviews published, English-language cost-utility analysis articles covering a wide range of interventions, aiming at providing reliable statistics to identify best opportunity for targeting resource to improve health and to assist the decision making of resource allocation.

Methods: The major responsibility of this internship was to abstract cost-utility data, such as methodology, cost-effectiveness ratios and utility weights, from original articles and then input them into the Registry database. After reviewing the cost-utility articles independently, two trained readers reviewing the same articles compared the abstracted original cost-utility estimates by entering them into the access forms and then reach a consensus to what data should be enrolled. Other work like organizing evidence for private payers' formulary decision documents and correcting key data in database has also been delegated.

Results/Outcomes: Nearly 90 cost-utility articles containing original data published in 2015 have been reviewed and enrolled into the Registry so that the latest cost-effectiveness information of drugs and interventions is available for searching. The improvement of the CEA Registry will help clinicians and policymakers to understand the value of healthcare interventions and to make better risk tradeoffs.

MATERNAL & CHILD HEALTH

Name: Allocca, Rose
Practicum Site: Boston Medical Center Pediatrics Department
Location: Boston , MA United States
Title: Purposeful Parenting Study Research Assistant

Introduction: The Purposeful Parenting study is funded by a grant from the Maternal and Child Health Bureau. The goal of the study is to test whether or not the Purposeful Parenting program helps parents and family members learn about their infants' development during their first 12 months of life. The program includes ways to play and interact with the infant to promote healthy development. The study is being conducted at Boston Medical Center Pediatrics and Dimock Health Center Pediatrics.

Methods: Practicum activities included: 1) Recruitment; 2) Facilitating & organizing interventions; 3) Data entry; and 4) Translation. Families with healthy newborns are recruited and randomly selected to receive the intervention. Intervention families receive the Purposeful Parenting programming at the end of their 6 well-child visits during the infant's first year of life. They meet with an interventionist from the Purposeful Parenting team for 5-10 minutes after their appointment with the pediatrician. At Dimock Health Center, the interventionists are bilingual, Latina medical assistants, whose participation is valuable and integral to the success of the study for the primarily Latino families who come to Dimock. All participants, in control and intervention groups, complete three interviews and are compensated with gift cards. Participants are in the study for 18 months.

Results/Outcome: The Purposeful Parenting Study is ongoing. Data analysis and implications of the intervention will be completed at a later time.

Name: Boldbaatar, Ninjin
Practicum Site: Harvard School of Public Health
Location: Boston, MA
Title: Research Assistance

Introduction: Vitamin D is essential for the regulation of calcium and phosphorus metabolism, but the effects of vitamin D deficiency on non-skeletal health outcomes in infants and young children are unclear. This systematic review involves randomized controlled trials of vitamin D supplementation in infant and young child bone health, immune function and risk of infection, and indicators of survival and development.

Methods: Practicum activities included: 1) In addition to PubMed and Cochrane databases, selecting the third database, EMBASE. 2) Identifying duplicate records between PubMed, Cochrane, and EMBASE. 3) Applying exclusion criteria for Cochrane and EMBASE records, and recording the reasoning behind the exclusion of specific articles. 4) Researching and familiarizing myself with GRADE criteria, and learning how to apply it. 5) Evaluating the quality of articles through the GRADE criteria and constructing a PRISMA diagram.

Results/Projected Outcomes: I have become familiar with systematic review, applying GRADE criteria, and using PRISMA diagrams. Furthermore, I gained appreciation for the smaller aspects of the overall objective, since working on the exclusion criteria alone took more than a month. Completion of this project will help in meta-analysis of bone outcomes, add a PRISMA diagram to the final paper, help in rearranging table 1, and rewriting the manuscript. The current project will help us better understand the effect of vitamin D supplementation on health outcomes among infants and toddlers, particularly in low- and middle-income settings.

Name: Denubila, Megan
Practicum Site: Worcester Division of Public Health
Location: Worcester, MA
Title: Post-Partum Home Visits Research

Introduction: Review of national, state and local data shows an increased infant mortality rate and adverse health outcomes for infants and mothers in the Greater Worcester area, especially in specific vulnerable sub-populations. The Worcester Division of Public Health (WDPH), with the launch of their new Community Health Improvement Plan, aimed to review post-partum home-visiting programs using community health workers as a public health intervention and evaluate if this type of intervention made sense for this community. This intervention could potentially reduce or resolve not only maternal and infant health issues, but on a larger scale, have a ripple effect on overall health of the community looking through a life-course perspective.

Methods: A literature review was conducted to provide WDPH with trends in data and reasoning behind the use of these programs. In addition this review provide WDPH with a look at current and past programs that have been implemented. I also reviewed the feasibility and sustainability through a combination of literature and key informant interviews.

Results/Project Outcomes: Through the literature review conducted, I found that home-visiting programs for post-partum mothers and infants have been highly successful. In speaking with key informants, many agencies in the Worcester area provide a type of home-visiting program. However, much of the work is done in silos and there has been little to no resource pooling. WDPH should consider convening or tapping into an existing coalitions to bring the community together and create a working group for the beginning stages of such a program.

MATERNAL & CHILD HEALTH

Name: Desrosiers, Avery
Practicum Site: National Institute for Children's Health Quality
Location: Boston, MA
Title: IM CoIIN Team Member

Introduction: The Infant Mortality Collaborative Improvement and Innovation Network (IM CoIIN) galvanizes state health departments and key stakeholders to eliminate disparities in birth outcomes. IM CoIIN has six learning networks where participating states employ quality improvement strategies to test evidence-based changes at pilot sites before adopting and spreading sustainable innovations. In order to aid state collaboration and implementation of changes, the National Institute of Children's Health Quality (NICHQ) is developing an online prevention toolkit that will serve as a resource to support stakeholder's work to reduce infant mortality. The purpose of the practicum was to assist in the development of state case studies within each learning network to serve as examples for other states participating in IM CoIIN.

Methods: In identifying content to be highlighted in the toolkit I created a master tracking sheet that identified innovations that IM CoIIN state teams are implementing through their Plan, Do, Study, Act (PDSA) cycles. I also utilized transcripts from case study interviews to identify additional resources to highlight in embedded videos. I was able to use project management skills to develop and maintain a work plan and coordinate a review plan among key partners for finalizing content of the toolkit.

Results/Outcomes: The online toolkit is scheduled to launch in late September 2016. The tool will be used to guide ongoing work in the Infant Mortality Collaborative Improvement and Innovation Network. The Year 4 Extension will be used to develop more case studies and receive feedback from users to help improve the tool.

Name: Ellman, Stephanie
Practicum Site: Massachusetts Council on Compulsive Gambling
Location: Boston, MA
Title: Prevention Intern at the Massachusetts Council for Compulsive Gambling

Introduction: Compulsive gambling is a mental health disorder in which a gambler's behavior causes adverse consequences for themselves, their families, or the community. The prevention specialists of the Massachusetts Council on Compulsive Gambling will pilot a youth-specific prevention program in Massachusetts towns with neighborhood-level factors known to correlate with increased prevalence of problem gambling. I worked on efforts to (1) prevent youth problem gambling by assisting with a photovoice collaboration with the Somerville Youth Advisory Board (SYAB) and (2) identify youth organizations for collaboration in target communities across Massachusetts.

Methods: I assisted with compilation of photos and captions into a physical photovoice display that the SYAB teenagers then presented to the community at Somerville's National Night Out, a national crime prevention event. After we taught Somerville teenagers about problem gambling, they photographed and captioned environmental factors that influence gambling in Somerville. To identify youth organizations for collaboration, I searched online for youth, teenage, or young adult organizations/programs in specific Massachusetts towns (based on an existing Mass Council dataset of higher-risk communities).

Results/Outcomes: At National Night Out, I represented the Mass. Council while the SYAB teens explained their project to an estimate 100 Somerville residents. The teens also helped us distribute literature about financial literacy and compulsive gambling. I also compiled contact information of over 100 community organizations and programs across Massachusetts to reach out to for collaboration.

Name: Foster, Natalie
Practicum Site: John Snow Research and Training Institute, Inc.
Location: Boston, MA
Title: Health Services Division Intern

Introduction: John Snow, Inc. is a management, consulting, and research organization that provides solutions to domestic and international public health problems. I worked on the Supporting Healthy Start Performance Project. Healthy Start (HS) is a federally funded program with 100 grantees in communities where the infant mortality rate is at least 1.5 times the national average. HS programs serve women, infants, and families before, during, and after pregnancy to improve birth outcomes and reduce perinatal health disparities.

Methods: My main responsibilities involved content development for an online training course for Community Health Workers (CHWs). I created resources for additional learning, developed plain language glossaries, and found educational resources for CHWs. Additionally, I conducted multiple key informant interviews with CHWs and program directors to better understand the various roles that CHWs play in community engagement. This information will inform a module on community engagement and advocacy in the next phase.

Results/Projected Outcomes: The first phase focuses on perinatal services and will be released later this year; development of the second phase will begin shortly after. The course will serve as a resource to provide the fundamental knowledge, experience, and skills needed for a CHW to successfully fulfill their role and responsibilities in a HS program. CHWs are often the primary connection to their communities and participants, and their work is vital to the success of the program. Because grantees vary in community and organization type, it is important for CHWs to share a common foundation of basic core competencies to ensure the program's success.

MATERNAL & CHILD HEALTH

Name: Ghebrehiwet, Senait
Practicum Site: Boston University School of Medicine
Location: Boston, MA
Title: Qualitative Data Analyst

Introduction: In the predominantly rural area of Butajira, Ethiopia, researchers found the prevalence of schizophrenia to be 5:1 where males have a higher prevalence as compared to women in this setting. Boston University School of Medicine's Department of Psychiatry in collaboration with Addis Ababa University sought to examine gender differences in the expression of schizophrenia to elicit cultural explanatory models of the illness.

Methods: This qualitative study used 39 in-depth interviews from a sample of community members in Butajira to identify the following: perceptions of schizophrenia, how people with the illness are treated, if the care they receive is influenced by their gender, gender differences in suicide and homicide, and excess outmigration of females. As one of three coders on the team, I analyzed these interviews and contributed to the development of a coding scheme using NVivo. By drawing comparisons and looking for overlap and differences in themes, we gained a rich understanding of how schizophrenia symptoms are conceptualized and expressed from the emic viewpoint.

Results/Outcomes: The research team identified a variety of nonmedical factors as major barriers in the identification of women with schizophrenia. Specifically, marriageability, stigma, social support and economic dependence emerged as important factors in our preliminary findings. Final results of the analysis will be presented in a later publication and will inform future training for key members of the community in detecting and referring new cases of schizophrenia.

Name: Harris, Anastasia
Practicum Site: Iowa Department of Public Health
Location: Des Moines, IA
Title: National MCH Workforce Development Center: Paired Practica Project

Introduction: The Adverse Childhood Experiences Study (ACE), was conducted by the Kaiser Permanente Health Maintenance Organization and the Centers for Disease Control (CDC). The study found that children who experience adversity including, household challenges, abuse, or neglect have an increased risk for poor health outcomes. For example, children that experience four or more ACEs are 4.3, 2.4 and 2.2 times as likely to develop COPD, asthma, or have a heart attack, respectively. The Iowa Department of Public Health requested 99 county-specific fact sheets that detailed the county ACE score, health outcomes, and demographic makeup.

Methods: To produce accurate data sheets the following sources were utilized: American Factfinder census, County Health Rankings, Health Indicators Warehouse, Behavioral Risk Factor Surveillance System (BRFSS), Community Health Needs Assessment (CHNA), Health Improvement Plan (HIP), and the Iowa Department of Public Health data sources. The fact sheets include social determinants of health including sex, gender, and race. The health indicators identified were teen birth rate, smoking and excessive drinking prevalence, heart disease and stroke related deaths, and COPD prevalence as these were most affected by a high ACE score. The reverse side detailed 10 types of support resources that are available within the immediate area, including many state-funded programs.

Results/Outcomes: The fact sheet will be disseminated to family support and public health professionals across the state with the intent to provide supplemental data to two-generational approach programming. In addition, local communities can raise awareness to support the mitigation of ACEs' to break the cycle for the next generation.

Name: Jang, Alyssa
Practicum Site: Roots of Health
Location: Puerto Princesa, Philippines
Title: Intern at Roots of Health

Introduction: Roots of Health (ROH) is a NGO whose mission is to "foster self reliant women, young people, and families to lead healthy reproductive lives by providing education and clinical services." ROH's two-pronged approach is meant to empower communities on the island of Palawan. The purpose of this practicum was to develop a stand-alone module for the teaching team as well as create a qualitative survey for the clinical and monitoring and evaluation teams.

Methods: Practicum activities for the teaching team included: 1) Understand what modules already exist and review the content; 2) Research proper teaching methods for a variety of topics about sexual and reproductive health for parents; 3) Create a module for parents of teens about sexual and reproductive health. Practicum activities for the clinical and M&E teams included: 1) Determine what type of survey is needed and in what subject area; 2) Research if there are any surveys that fit the needs of M&E; 3) Work with M&E to create a qualitative survey to evaluate the perceptions of the Community Health Advocates (CHAs) in the communities.

Results/Outcomes: The final teaching module will be taught to parents in the communities. The goal of the module is for parents to understand sexual and reproductive health topics so they can support their children in their sexual and reproductive health education. The final qualitative CHA survey will be distributed in the communities. ROH will continue to create qualitative surveys that help them understand how the communities perceive their services.

MATERNAL & CHILD HEALTH

Name: Lennox, Chelsea

Practicum Site: Blackstone Elementary School-based Health Center/South End Community Health Center

Location: Boston, MA

Title: BU EatWell Program Facilitator

Introduction: Boston University has partnered with the Boston Centers for Children and Families (BCYF) at the Blackstone Community Center to promote the health of neighborhood residents. Boston University students staff the recreation center, BU FitWell, and now implement BU EatWell, a program that teaches youth how to prepare simple healthy meals. This program incorporates a positive youth development model, with the goal of fostering competence and confidence in healthy cooking, decision making, and broader life skills.

Methods: Using the evidence-based programming of Cooking Matters, BU EatWell has been formulated and adapted to meet the specific needs of the BCC community. Through one-hour classes, the EatWell team engaged students in making healthy recipes, providing them with materials to bring home in order to practice their skills and teach others what they have learned. The team also collected observations over the course of the program to address sustainability and guide future evaluation efforts.

Results/Outcomes: The BU EatWell team produced documents to disseminate to future facilitators, guide facilitator training, and provide a streamlined approach to program implementation. These documents included (1) a facilitator manual, (2) a methodology and background report, (3) an executive memo, and (4) a recommended program implementation schedule.

Name: Lopera, Adriana

Practicum Site: Boston Medical Center

Location: Boston, MA

Title: CenteringPregnancy/Health Start Practicum

Introduction: The CenteringPregnancy program at Boston Medical Center is a group model of prenatal care that works closely with the Boston Health Start Initiative (BHSI). BHSI matches their Family Partners with Black and Latina women who are pregnant or parenting children under the age of 2 to help them meet their social and health needs.

Methods: (1) I performed unstructured interviews and conducted participant observation with Family Partners, the midwife manager, Centering intake groups, and ongoing Centering groups. (2) I worked collaboratively with the midwife manager and Family Partners to identify system level areas for quality improvement and ways to maximize the efficacy of the BHSI client tracking system.

Results/Outcomes: (1) I am creating a summary of my field notes for the midwife manager. (2) I revised the client tracking system in a way that enables Family Partners to manage their caseload and to facilitate communication with the midwife manager. I am overhauling the Family Partners' referral tracking system and creating a manager feedback tool for the same purpose. We collaboratively identified a need for an informational handout about BHSI for potential clients. Working with feedback from the Family Partners and the Boston Public Health Commission's BHSI office, I created a flyer at a 6th grade reading level that is now given to women with other resources at their prenatal intake visit. I am currently conducting research in regards to another identified need: appropriate educational materials to give to Centering groups at 28 and 36 weeks gestation.

Name: Mathews, Lisa

Practicum Site: Blackstone Elementary School-based Health Center/South End Community Health Center

Location: Boston, MA

Title: Instructor, Evaluator

Introduction: BU EatWell (BUEW) partnered with the Boston Center for Youth and Families (BCYF) to provide a nutrition education cooking course for adolescents at the Blackstone Community Center in Boston's South End neighborhood. The BUEW program, which was modified from the Cooking Matters (CM) program—two-hour-long classes for parents—comprised of five one-hour-long classes that introduced new ingredients, included vitamin and caloric information, and reviewed kitchen safety. Participants received raw ingredients to recreate each recipe at home. The BUSPH students and faculty evaluated the CM training and curriculum, working with stakeholders and participants to develop a sustainable new program that could be facilitated by any undergraduate student team without previous nutrition or education background.

Methods: The BUEW team planned and prepped each curated lesson from the original CM curriculum; evaluating the leadership, skills learned, and accessibility of ingredients for each recipe. Individually, each team member monitored a small cohort of participants from entire group for metrics such as initial engagement and practical kitchen skills like knife safety. Using key principles of Positive Youth Development and mentorship, the team evaluated participants on Competence and Confidence in food preparation. Meal and snack recipes were designed to be easily prepared with basic kitchen tools.

Results/Outcomes: The team created a comprehensive and concise step-by-step training manual for future facilitators, a methodology and literature review, and a sustainability progress plan memo for the executive drivers of the program's future. The team is currently reviewing and summarizing results from an online assessment tool from key stakeholders to facilitate program growth.

MATERNAL & CHILD HEALTH

Name: McInnis, Megan
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: Children's HealthWatch Boston Internship

Introduction: Food insecurity or the inability of households to afford enough food for all members affects nearly 20% of households in the U.S. with children under the age of six. Food insecurity is linked to poor health outcomes and greater need for special education services. Children's HealthWatch is a network of pediatricians, public health researchers, and policy experts who collect and analyze data on young children in five urban hospitals. The current survey, though broad in scope, has become problematic due to the extensive time needed to administer.

Methods: The primary project of this practicum was a transition from the current survey to a concise yet encompassing core survey and modules. The survey was reviewed and categorized into several modules, such as: work, child-care, exposure to violence/discrimination and government system interaction. Literature reviews were conducted to ensure validated screener questions and suggestions from key informants were compiled and presented at the Executive Meeting.

Results/Outcomes: This practicum's objective was to abbreviate the survey making it more manageable to administer during a brief well-child visit or emergency department stay. During this practicum I became cognizant of the difficulty associated with the need for sufficient data in evidence-based research, counter to the need to reduce the burden of data collection in the medical setting. Utilizing the new survey methodology, Children's HealthWatch can inform public health policy and clinical medicine with more nuanced evidence of the social, economic, and environmental factors associated with food insecurity while also reducing the amount of patients' time needed to gather data.

Name: McNiff, Kimberly
Practicum Site: Massachusetts Department of Public Health
Location: Boston, MA
Title: Fellow MDPH IM CoIIN project

Introduction: Massachusetts Collaborative Improvement and Innovation Network to Reduce Infant Mortality (MA IM CoIIN) is a collaboration of stakeholders throughout state of Massachusetts to reduce infant mortality and improve birth outcomes. Within nationally identified six strategic focus areas, MA IM CoIIN has selected Safe Sleep, Preterm and Early term Births, and Social Determinants of health to concentrate their efforts. Within the Social Determinants of health, the areas of focus were homelessness, paid parental leave, and earned income tax credit.

Methods: I worked on the Social Determinants of Health team at the Massachusetts Department of Public Health focusing on pregnancy and homelessness and paid parental leave. My duties were to create a fact sheet to be distributed to housing authorities about homelessness and pregnancy and to connect with organizations advocating paid parental leave in Massachusetts. Extensive research on both topics was conducted, and information was analyzed, interpreted, and prepared for dissemination.

Results/Outcomes: A fact sheet with information about pregnancy and homelessness was created for dissemination to local housing authorities. The creation of the fact sheet was a step in accomplishing the ultimate goal of partnering with the housing authorities to provide housing units for pregnant homeless women to address this identified social determinant of health. Data from studies about paid parental leave was analyzed and applied to US infant mortality rates to prepare information for dissemination to the public in advocating for the implementation of paid parental leave policies in Massachusetts.

Name: Rico, Christina
Practicum Site: Addis Clinic
Location: Boston, MA
Title: Research and Administration Intern at the Addis Clinic

Introduction: The Addis Clinic serves to increase access to care through telemedicine to the under resourced community of Addis Ababa in Ethiopia. This practicum worked to gather the necessary funding a small nonprofit requires to continue its work and conduct necessary program evaluations.

Methods: We began by searching for grants, primarily using the Foundation Directory Online database. We compiled grants The Addis Clinic fit the broad criteria for. From the selected grants we ensured they aligned with the Addis Clinic's mission and that all the grant requirements were met. Grant writing serves to fund the mission of the organization and continue supporting innovative methods of increasing access to medical professionals and health resources.

Results/Projected Outcomes: This practicum worked to increase resources for the organization as a whole so the Addis Clinic can continue its work in Ethiopia and research other potential under resourced communities to continue their work. As an intern I worked to continue the innovative health access goals of this organization to sustain its work by securing sufficient funding through grants. Telemedicine is a newer field and organizations such as the Addis Clinic are allowing public health professionals to better understand the challenges and benefits of using technology to increase access to care. Telemedicine creates an efficient method for physicians in higher resourced settings to reach patients in low resourced and often remote areas. The future goals of this program includes providing more research on telemedicine to better understand feasibility and the impact it has on communities.

MATERNAL & CHILD HEALTH

Name: Stanley, Jenna
Practicum Site: Beth Israel Deaconess Medical Center
Location: Boston, MA
Title: OB/GYN Immunization and Postpartum Depression Support

Introduction: The department of Obstetrics and Gynecology at Beth Israel Deaconess Medical Center seeks to ensure women of all ages and walks of life receive personalized and expert care for a broad spectrum of gynecological and obstetric needs. The purpose of this practicum was to assist the department in increasing adult immunization rates for all patients via the ACOG Increasing Adult Immunization Rates through Obstetrician-Gynecologist Partnerships project, and ensuring postpartum depression screenings are administered, evaluated, discussed and recorded for all obstetric patients.

Methods: I worked with the lead physician and nurse for the ACOG immunization project to: 1) determine a tentative course of action for increasing provider and patient awareness of immunization importance; 2) research and distribute effective visuals and tools for providers and patients to understand when/why women are due for immunizations; 3) conduct a random chart review of patients' immunization status for providers of interest, presenting data to management. I also obtained postpartum depression screening data for every patient giving birth at BIDMC for the calendar year of 2015 via the hospital's electronic health record.

Results/Outcomes: A complete random dataset on immunizations administered to patients per provider, distribution of immunization awareness materials and tools throughout the clinic and recommendations for continuously increasing patient and provider awareness of immunization importance. Additionally, a complete dataset on PPD screenings for all patients giving birth at the hospital in 2015, including recommendations for PPD data entry in EHR for easier analysis in the future was generated.

Name: Watts, Ivy
Practicum Site: Blue Hills Community Health Alliance
Location: Quincy, MA
Title: Multi Year Grant Project Intern

Introduction: CHNA 20 is regional coalition that provides grants and is dedicated to improving the health of our communities through multi-sector collaboration. The purpose of this practicum was to help refine intervention strategies and identify program goals of a program having difficulty meeting the collaboration requirements of the grant. The program aimed to improve healthy eating and physical activity in a Head Start setting.

Methods: Initial activities included reviewing all documents and prior correspondence of the grantee. Interviews were conducted with the members and trends on visions, outcomes, and measurements were documented. Findings were presented to the members and recommendations were made for their Year 1 Report to determine future funding. Other activities included participating in a grant review session to review grant applications with Public Health professionals. Input on the quality of each grant was provided to help determine which programs to fund. Finally, a summer meeting on the importance and process of collaboration was planned and developed in which an expert was sought out and materials created.

Results/Outcomes: The Year 1 Report of the grantee was reviewed by myself, consultants, and members of the Steering Committee and collectively it was decided to not provide further funds due to the organization's failure and reluctance to accept our recommendations and improve their collaboration and program activities. Although the funding did not continue, key skills learned through this experience included qualitative skills, program planning, program evaluation and grant evaluation. This experience also demonstrated the importance of collaboration for successful Public Health programs.

Name: Williams, Anna
Practicum Site: Boston Public Health Commission
Location: Boston, MA
Title: Developing a Violence Prevention Curriculum Framework

Introduction: The Start Strong Initiative, a program that sits within the Division of Violence Prevention at Boston Public Health Commission, is currently working with Casa Myrna Vasquez, a domestic violence shelter in Boston, to design a new teen dating violence curriculum that will be modeled off of the existing Start Strong adolescent peer education model. This practicum focused on developing a framework for a curriculum for high school students that promotes adolescent inclusion and healthy relationship messaging.

Methods: As the Curriculum Development Coordinator intern, I was responsible for conducting and analyzing a community needs assessment and producing an evidence-based curriculum framework on healthy relationships and teen dating violence prevention. To complete this framework, I analyzed the results from four focus groups and synthesized the data into a needs assessment report of the qualitative data. I used this primary data together with a literature review I conducted on teen dating violence research to produce a curriculum framework that addresses the needs of the community and incorporates socio-behavioral theories and intervention mapping strategies.

Results/Outcomes: The final needs assessment results and curriculum framework will be shared with Start Strong and Casa Myrna Vasquez leaders, and a working group will build upon the curriculum framework to develop a detailed teen dating violence prevention curriculum for high school students in the Boston area.

SOCIAL & BEHAVIORAL SCIENCES

Name: Burzynski, Anya
Practicum Site: 2020 Onsite Optometry
Location: Boston, MA
Title: Credentialing Assistant/ BPS Partnership Coordinator

Introduction: 2020 On-site Optometry is an employee wellness and healthcare start-up that brings eye exams to workplaces via a 'mobile vision center'. Routine eye care has preventive health benefits such as early detection of glaucoma and diabetes. 2020 is rapidly expanding into new cities in an effort to create a healthier and happier workforce. 2020 launched a pilot program with Boston Public School system to deliver eye exams and glasses to students in need.

Methods: 1) Strengthen partnership with BPS 2) Create consent forms to be distributed at the beginning of the school year and have them accessible on the 2020 website. 3) Spearhead a 'buy one, give one' campaign in order to fund glasses for BPS students. 4) Work with school nurses to coordinate tabling and marketing during open houses and school wellness events. 5) Work with BPS contacts to create a press release 6) Work with the credentialing and billing team in order to facilitate rapid growth into new markets.

Results/Outcomes: 2020 Onsite is planning on doubling the number of eye exams given to students in the Boston Public School system. Delivering more eye exams will be easier due to updated consent forms that are easily accessible, translated into 5 different languages and distributed during the first weeks of school. Increased publicity of our partnership was made possible due to our press release and the 'buy one, give one' campaign is underway.

Name: Charmchi, Pareesa
Practicum Site: Boston Medical Center
Location: Boston, MA
Title: A Formative Evaluation of a Narrative Medicine Pilot Program

Introduction: Us/Them is a pilot program based at Boston Medical Center designed for clinicians whose patients have a history of sexual trauma. The program consists of a reflection group that uses narrative medicine as a tool to build provider competence to absorb, interpret, and appropriately respond to their patients' stories. The pilot program began in January, 2016 and concluded in June, 2016. I worked on the formative, qualitative evaluation of this program.

Methods: Practicum activities included: 1) conducted directed content analysis of the baseline interviews; 2) conducted in-depth, semi-structured post-program interviews; 3) created and administered a short survey for participants to complete before their post-program interview. The survey was used to determine participant satisfaction and logistics for future planning; and 4) reported change in mean perceived stress scale (PSS) score, which was collected at the end of each monthly session. PSS is a validated 5-point scale.

Results: Emerging themes included: coping strategies for mitigating the harm of vicarious trauma, rituals for transitioning between personal and professional arenas, and authentic engagement for building therapeutic partnerships. Mean satisfaction scores out of 5 (n=9): Group met expectations 4; Would participate again 4.44; Would recommend 4.44. PSS: (n = 7-9) 0.9 decrease in mean feeling unable to control important things in life; 0.3 increase in mean confidence to handle personal problems; 0.4 increase in mean feeling positive; and 0.4 decrease in mean feeling overwhelmed. The evaluation of this program will be completed in January, 2017 and will be used to refine the program.

Name: Christensen, Tiffany
Practicum Site: Boston University School of Public Health (BUSPH)
Location: Boston, MA
Title: Pornography Literacy Curriculum Pilot Study

Introduction: Sexually explicit media can have a negative impact on young people and their relationships. Many adolescents derive their knowledge and understanding of sex and sexual relationships from pornography, and there have been associations between pornography use and dating abuse victimization. The purpose of this practicum was to assist the Principal Investigator in conducting process evaluation of a pornography literacy curriculum pilot and examining the changes in adolescents' knowledge, attitudes, and behaviors after they participated in the pornography literacy classes.

Methods: The responsibilities of this practicum included: obtaining IRB approval, creating and obtaining consent forms, distributing pre and post-tests, participating in program implementation, creating fidelity assessments, and generating and analyzing data.

Results/Projected Outcomes: The results of this study will impact any changes made to the curriculum and future implementation methods. It also provided further insight into the attitudes and behaviors the target population has towards pornography. The work included in this practicum was helpful in understanding how to educate young people on the effects and prevalence of sexually explicit media; how to empower youth to make informed choices; and how to create an environment that will allow for conversations around sexism, racism, classism and other forms of oppression that are presented in the media and how it may influence society.

SOCIAL & BEHAVIORAL SCIENCES

Name: Christian, Anna
Practicum Site: Massachusetts Department of Public Health
Location: Sudbury, MA
Title: MDPH Local Board of Health Intern -- Sudbury

Introduction: From 2012 to 2014, the number of confirmed, unintentional opioid overdoses in Massachusetts had gone from 668 to 1099. At this rate of increase, 64%, there will be 1800 deaths in 2016. 7% of Lincoln Sudbury Regional High School students have lifetime prescription drug misuse and 5% have been offered or sold prescription drugs on school grounds. To address this trend, Sudbury developed a PSA to increase residents' awareness of opioid misuse and to offer education, support, and additional resources.

Methods: To inform the PSA, a literature review was conducted to compile state and local trends and to compose key messages for the public, particularly parents. Partnering with Sudbury Local Access TV, the police chief, town manager, board of health director, fire chief, and town social worker each filmed a segment to be included in the final product.

Results/Outcomes: The literature review and discussions with participating town officials resulted in key elements identified for inclusion in the PSA: information on current state and local trends, pathways to use, signs that a child or loved one might be using, action steps for parents, and proper disposal methods for unwanted or unused opiate medications. These elements were displayed in slide format and accompanied the video interview segments to provide a visually diverse final product. The video will air on local access television and will be posted to all Sudbury internet forums.

Name: Fisher, Lauren
Practicum Site: Dana Farber Cancer Institute
Location: Boston, MA
Title: Administrator of Investigational New Drug Safety Reports

Introduction: The Breast Oncology Center (BOC) at the Dana-Farber Cancer Institute (DFCI) is currently conducting about 100 active clinical trials. In addition to conducting industry-sponsored studies and single-center, principal investigator (PI)-initiated studies, the BOC collaborates with the DFCI Clinical Trials Office (CTO) on its multi-center, PI-initiated, trials. Per Title 21, Part 312, Section 32 of the FDA's Code of Federal Regulations (21CFR312.32), PIs must review all Investigational New Drug Safety Reports (INDSRs) provided by an outside sponsor to assess whether the reports affect patient safety. Per DFCI policy, this review must occur within 60 days of receipt. This practicum evaluated the current process for circulating INDSRs to PIs, assessed the needs of employees tasked with circulating INDSRs, addressed existing operational deficiencies, and created an interdepartmental policy proposal for the handling of INDSRs.

Methods: Activities included 1) Created a tracker of over 100 studies that receive INDSRs; 2) Mapped INDSRs to each PI; 3) Researched methods for tracking INDSRs and synthesized best practices from other institutions; 4) Evaluated current process for sending INDSRs by conducting interviews with the coordinators responsible for this task; 5) Wrote a policy proposal to be presented to leadership at the DFCI CTO.

Results/Outcomes: The evaluation of current practices and the policy proposal will be reviewed by the leadership in both the BOC and CTO. Upon acceptance of the policy proposal, the new workflow and operational changes will be piloted in the BOC with the ultimate goal of implementing the changes institute-wide.

Name: Geer, Christine
Practicum Site: Blackstone Elementary School-based Health Center/South End Community Health Center
Location: Boston, MA
Title: Blackstone Community Center/BU EatWell Instructor

Introduction: BU EatWell is a program that has been developed through the partnership between Boston University and the Blackstone Community Center (Boston Centers for Youth and Families). This program is intended to help improve the consumption of nutritious foods in an underserved community by providing cooking skills training and a basic knowledge of healthy eating to youth. BU EatWell combines methods from the models of Cooking Matters and Positive Youth Development (PYD) to simultaneously improve nutrition and life-skills by way of mentorship. In essence, this practicum was divided into two parts: program implementation and the creation of usable deliverables for future program development.

Methods: Activities included: 1) the review and assessment of facilitator training materials; 2) lesson planning and implementation of cooking classes for youth; 3) the creation of a manual for future facilitators in order to help expedite learning and ensure consistency; 4) the development of an executive memorandum to guide dissemination efforts and program progression; 5) the contact of key stakeholders to utilize an online sustainability assessment tool to guide next steps.

Results/Outcomes: This practicum established the necessity of a streamlined facilitator training system, for which the team produced a program manual. The executive memorandum highlighted the necessity of needs assessments and resource evaluations to help direct investment and development. Input from key stakeholders is preliminary, but will eventually inform considerations for practice and dissemination.

SOCIAL & BEHAVIORAL SCIENCES

Name: Giordano, Angela

Practicum Site: Massachusetts Department of Public Health Local Internship Program

Location: Needham, MA

Title: Youth Substance Abuse Prevention Program Intern

Introduction: The 2014 MetroWest adolescent health survey indicated that 54, 32, 19 and seven percent of Needham high school students report lifetime use of alcohol, marijuana, tobacco, and prescription drug misuse, respectively^[1]. Qualitative research identified community norms of acceptance and low perception of risk as root causes of youth substance use. The purpose of this practicum was to contribute to the development of evidence-based information, health communications and resources to address these root causes.

Methods: Each communications project was directed by a logic model, which guides implementation of data driven activities to achieve program objectives. A literature review on synthetic drugs was conducted to inform an article published in local Needham newspapers in anticipation of local board of health regulations banning the substances. Needham parents, department staff, coalition partners, and the Needham Channel collaborated to produce two video campaigns for parents. Resources on the Town of Needham web page were inventoried, updated, and a new framework was established. A social norms poster campaign that targets Needham High School students was proposed for the upcoming school year.

Results/Outcomes: These communications and education projects target specific populations with tailored messages and provide evidence-based information to shift community norms of acceptance and perceptions of risk at the population level. The video and poster campaigns will be distributed locally to target audiences and the town web page will have an updated resource library.

[1] Education Development Center, Inc. 2014 Metrowest Adolescent Health Survey Report. Waltham: Metrowest Health Foundation; 2015.

Name: Herman, Augusta

Practicum Site: Boston University School of Medicine

Location: Boston, MA

Title: Research Assistant: Traditional Medicine in Liberia

Introduction: Between 1989 and 2003, Liberia suffered two civil wars, resulting in a broken nation whose people had witnessed incredible violence. However, Liberia has a limited mental health care delivery system to relieve those suffering from the consequences of the wars. The BUSM Department of Psychiatry is committed to improving mental health care and research within Liberia. This particular project strives to understand how traditional healers fit within the Liberian healthcare system and recognize the role of traditional healing techniques for mental health. The purpose of this practicum was to assist with qualitative data analysis.

Methods: 35 qualitative interviews with Liberian traditional healers and patients were analyzed using NVivo software and a codebook developed and informed by six interview transcripts. Inter-coder reliability was established by reviewing one of every five interviews between two coding team members. Themes and constructs were extracted from the coded data and discussed among the research team.

Results: Traditional healers in Liberia treat many conditions, one of which is "open mole", a culture-bound mental illness identified by a depressed fontanelle and behavioral abnormalities. Open mole is prevalent in Liberia, though is distinguished from other mental illnesses like insanity. People view open mole as an episodic, naturally-occurring illness, caused by treatable health problems such as heart disease or dehydration. Insanity, on the other hand, is a more permanent condition that is difficult to treat. This distinction may provide Liberians suffering from trauma a channel to identify and treat mental illness without stigma.

Name: Howard, Carey

Practicum Site: MA Department of Public Health

Location: Boston, MA

Title: Suicide Prevention Community Advisory Board Intern

Introduction: The Suicide Prevention Program (SPP) sits within the Division of Violence and Injury Prevention (DVIP) at the MA Department of Public Health (MDPH). The SPP funds about 22 providers throughout Massachusetts whose shared objective is to reduce the number of suicides amongst residents across the state. The objective of this practicum was to assist in establishing a functioning Community Advisory Board (CAB) for the Suicide Prevention Program. The CABs mission is to integrate the lived experience perspective into policy and programmatic decision-making, in order to strengthen suicide prevention services.

Methods: Practicum activities included: 1) Community outreach to generate interest and knowledge of the CAB; 2) Formative information gathering through literature review and meeting with facilitators of other existing CABs; 3) Creating CAB materials such as the application and draft membership manual; 4) Assisting SPP staff to create the structure for the CAB; 5) Creating promotional materials and publicizing the CAB through social media, flyers, a webpage, and a blog post; 6) Garnering stakeholder engagement through presenting about the CAB to the SPP providers; 7) Collecting and reviewing all applications and managing logistics of the first CAB meeting; 8) Creating a process evaluation form to be used by SPP staff; and 9) presenting our progress and lessons learned to the DVIP.

Results/Outcomes: The SPP received 15 applications for the CAB and accepted all members. The first meeting will be held in mid-September.

SOCIAL & BEHAVIORAL SCIENCES

Name: Lo, Tammy
Practicum Site: BUMC Center for Implementation and Improvement Sciences
Location: Boston, MA
Title: Intern

Introduction: The population 65 years or older is expected to increase to more than 70 million by 2030. Due to this rapid growth, prevention and treatment of chronic diseases, such as dementia, is important because decline in memory and other cognitive functions also leads to loss of independence and quality of life. At the Memory Disorder Clinic (MDC), a collaborative team welcomes this population by using a family-centered approach. The purpose of this practicum was to assist in a formative evaluation, guided by the PARIHS framework, designed to ensure services are used efficiently and are useful for a multilingual population.

Methods: Activities included: 1) Survey/interview referring providers, patients, caregivers, and interpreters to better understand their satisfaction with the implementation of the MDC and recommendations for improvement and data analysis; 2) Analyze and report results.

Results/Outcomes: To date, 15 patients (87% female, 13% male) have been seen: average age, 75 years; English speakers accounted for 67%; Black or African-American individuals are the majority. Patients reported: 1) satisfaction with scheduling an appointment and getting needed information from the clinic; 2) agreeing with statements about provider satisfaction, which included understanding their provider, that their provider listened to them, showed respect, and spent enough time with them. Caregiver satisfaction scores aligned with patient scores. Retrospective review of medical records revealed that average time to appointment from referral was 52 days.

Name: Marotta, Caylin
Practicum Site: Brigham and Women's Hospital
Location: Boston, MA
Title: Health Equity Programs Intern

Introduction: The Center for Community Health and Health Equity at Brigham & Women's Hospital serves as the coordinating department for community health programs that aim to eliminate health disparities. The health equity programs focus on improving prenatal health and birth outcomes and cancer intervention and prevention for communities served by Brigham & Women's Hospital.

Methods: Practicum activities included: 1) Recreate a Young Parent Resource Directory 2) Assist with the planning and running of the STEPS Young Parent Summit 3) Conduct literature reviews for best practices for colorectal cancer screening patient navigator programs and health literacy for limited English speaking populations 4) Create a colorectal cancer screening patient education brochure 5) Create a health education infographic to educate providers about the BWH colorectal cancer screening patient navigator program.

Results/Outcomes: The STEPS Young Parent Summit celebrated the hard parenting work of many young parent attendees. The Young Parent Resource Directory was distributed to attendees at the event and provided them with a guide to helpful local resources. The literature reviews of best practices for colorectal cancer screening patient navigator programs and healthy literacy for limited English speaking populations will provide valuable research for BWH to continue to improve their colorectal cancer screening patient navigator program. The colorectal cancer screening patient education brochure will be given to BWH patients to provide information about screening procedures and increase screening awareness. The colorectal cancer screening patient navigator program infographic will be distributed to BWH providers to increase awareness of patient navigation.

Name: McIntire, Kristen
Practicum Site: Grass Roots Diabetes
Location: Boston, MA
Title: Program Development Assistant

Introduction: Grassroots Diabetes, a non-profit organization headquartered in Boston, MA provides an outreach, community-based diabetes education and advisory program entitled 'On the Road' (OTR) serving individuals and populations with prediabetes, diabetes, and cardiometabolic syndrome in underserved communities. One of the active sites is located in Las Cruces, New Mexico, and is the only site using the program's physical activity curriculum with participants. The purpose of the practicum was to revitalize the physical activity portion of the program in order to be able to better target this New Mexico population.

Methods: A new flipchart for instructors and new booklets for participants were created during the practicum based on previous versions. The work improved the materials aesthetically under a health literacy lens, with new graphics and positive messaging incorporated into the materials. This falls under Grassroots Diabetes' belief that hope can help people struggling with diabetes. The class curriculum was also updated to incorporate these changes to allow for the instructor to have a polished teaching experience.

Results: These new materials will be implemented in Las Cruces for the next round of classes beginning in November 2016. Overall projected outcomes for the OTR program are improvements in A1C, blood pressure, and physical activity level for the participants. Continued involvement after the completion of the practicum includes traveling to Las Cruces, interpreting data from exercise program participants, and creating a follow-up program for participants to join when they complete OTR, which will allow them to form a community around their shared diagnosis.

SOCIAL & BEHAVIORAL SCIENCES

Name: Minor, Kirsten
Practicum Site: Boston Public Health Commission
Location: Boston, MA
Title: BPHC (CIB/Safe Shops Program Intern)

Introduction: The Boston Public Health Commission Safe Shops Project is an initiative that seeks to develop mutually-beneficial relationships with small businesses that have a greater burden of health which impacts the health of employees, communities, and the environment as result of exposure to toxic chemicals in certain occupations. Historically, the project has successfully partnered with nail salons and auto body shops. The Safe Shops Program now hopes to include Boston hair salons. The purpose of this practicum is to assess the potential adverse health outcomes among hairstylists as associated with chemical exposure from hair products in order to educate, empower, and connect hair salons to resources and safer alternative products as available to reduce risks to health.

Methods: Activities to identify the risk factors for adverse health outcomes among hairdressers and clients included a literature review of secondary data sources such as: (1) peer-reviewed academic journals, (2) scientific literature, and (3) public health data from state and federal sources such as the Boston Public Health Commission (BPHC) and the Center for Disease and Control (CDC) were conducted. Primary data sources include: (1) self-administered questionnaires/surveys, and (2) field observation.

Results/Projected Outcomes: The projected outcome of this project is that the Safe Shops program will be informed by data that illuminate the health disparities that exist among Boston hairstylists, specifically hairstylists that predominately serve women of color. This will support efforts to equip hair salons with educational resources and products that will reduce adverse health outcomes and disparities.

Name: Morioka, Meleana
Practicum Site: Full Frame Initiative (FFI)
Location: Boston/Cambridge, MA
Title: Youth, Juvenile Justice and Wellbeing Intern

Introduction: The Full Frame Initiative (FFI) provides consultation, technical assistance, and training to forward-thinking government agencies to reform how services are funded, regulated and delivered, so systems begin to encourage what works to break cycles of poverty and violence. At FFI, I worked with Dr. La Tonya Green, the Director of Evidence and Knowledge, to conduct research and literature reviews to better inform the programs provided as a result of the FFI-Missouri Division of Youth Services partnership.

Methods: To ensure that the DYS Outcomes and Measures Committee had the most relevant knowledge relevant to their programs to date, I worked with Dr. Green to 1) create an accessible literature review regarding several youth program and developmental outcomes, 2) catalog tools for measuring positive youth outcomes, reductions in the impact of trauma, and youth wellbeing, 3) catalog positive youth development tools and wellbeing indices, and 4) update FFI's Five Domains of Well Being fact sheets.

Results/Projected Outcomes: In general, the knowledge gained from completing the deliverables elucidated the complexity of juvenile-involved youth and their development. There are various ways to frame the way people, organizations, and even systems perceive these youth, and understanding this complexity helps FFI and the Missouri DYS Committee to continuously be informed of new tools and knowledge to better inform their programs. In turn, the new knowledge gained from my work will facilitate youth involved in the programs to thrive and achieve wellbeing.

Name: O'Donnell, Deirdre
Practicum Site: Boston University Fitness and Wellness Center at Blackstone
Location: Boston, MA
Title: BUSPH Summer 2016 EatWell at Blackstone Community Center

Introduction: A team of BUSPH students and faculty, in collaboration with Blackstone Community Center, adapted and implemented a four week healthy eating and food preparation course (BU EatWell) for youth attending summer camp through the Boston Center for Youth and Families (DCYF) network. The purpose of the practicum was to identify assessment indicators related to the course objectives that a future evaluation could employ, to integrate principles of positive youth development into the curriculum and to enable future implementation and sustainability of the course by creating an implementation manual.

Methods: Working as a team, activities included: 1) creating lesson plans by adapting an online resource known as Cooking Matters; 2) implementing four classes through demonstrating healthy food preparation and related healthy eating principles; 3) recording observational data regarding positive youth development interactions and response; and 4) using an existing web-based sustainability assessment framework to survey key stakeholders that could inform recommendations.

Results/Projected Outcomes: The BU EatWell curriculum has been enhanced by the inclusion of key positive youth development elements. The step-by-step manual implementation train-the-trainer manual will enable dissemination and help bring the program to scale. This and the results of the sustainability assessment will help assure future continuation and expansion of the BU EatWell initiative.

SOCIAL & BEHAVIORAL SCIENCES

Name: Penwill, Nicole
Practicum Site: Boston University School of Public Health (BUSPH)
Location: Boston, MA
Title: Research assistant

Introduction: As a research assistant in the Graduate Research Affiliate Program, I assisted in the writing of a paper on HIV disclosure to infected adolescents, specifically in China, as part of the larger Adolescent Adherence Support in China (AASC) project.

Methods: For this project, the following activities were accomplished: 1) reviewed and analyzed the literature to better characterize adolescent HIV disclosure practices internationally; 2) identified relevant China-based studies; 3) completed an annotated bibliography; 4) wrote the introduction and discussion sections; 5) analyzed findings from our pilot study in the context of the literature; and 6) prepared to make recommendations regarding disclosure practices and future research in China.

Results/Outcomes: The completed paper is currently undergoing peer review and finalization by the practicum supervisor, with the intent to publish our work. Primary findings in this study suggest that, in China, disclosure is often delayed to late adolescence; stigma is a major barrier to caregiver disclosure; health providers may play an important role in educating and supporting caregivers through disclosure; and interventions are needed to reduce community stigma, especially in schools, in order to facilitate disclosure. As HIV disclosure to adolescents has not previously been studied in China, this report will provide the first published data on this subject specifically in the Chinese context.

Name: Sankhavaram, Saumya
Practicum Site: Health Leads National
Location: Boston, MA
Title: Summer Fellow, Launch and Implementation

Introduction: Lack of access to social support services can often block access to healthcare, and directly affect population health. Health Leads offers an innovative model of service delivery for resource connections. It aims to help alleviate these barriers by treating patients' basic resource needs as part of the standards of quality care. Patients are linked to housing, food, financial, health, utilities and other resources. The purpose of this practicum was to assist in the implementation and evaluation of this service model in the West Los Angeles Kaiser Permanente hospital system.

Methods: The practicum consisted of three components: 1) initiating new client calls to enroll patients and identify potential resource needs; 2) contacting clients who had been referred to the program previously to determine their interest in enrolling with Health Leads services (Closed Clients Project); and 3) following up with clients previously enrolled in the Health Leads data base (REACH) to determine to what extent they made and utilized program supported connections (Equipped Clients Project).

Results: The Closed Client and Equipped Client projects were completed as of the end of this practicum, though the new client calls component is continuing aspect of the Health Leads and Kaiser partnership. In the Closed Clients Project, 25 clients were called and 2 were enrolled in Health Leads, while 6 declined services and 17 were not contacted. In the Equipped Clients Project, out of 53 clients called with 69 equipped needs, 51 needs had no successful connections.

Name: Tavilla, Kristina
Practicum Site: Impilo Phambili Public Health Programme
Location: South Africa
Title: Mental Health Team Leader, directly overseeing the mental health work

Introduction: The Impilo Phambili Community Projects is a non-governmental organization that promotes health promotion in South Africa through education for nutrition, exercise and disease prevention/management. The purpose of this practicum was to collaborate with two NGOs (Sisters for Sisters, a gender-based violence organization that provides a number of services to females of all ages that are victims of various forms of violence and Scalabrini Refugee Center's Women's Platform, which supports migrant women from across Africa by promoting socio-economic integration and helping them develop key job skills, improve personal growth, and develop small businesses) to gather data and present workshops to participants.

Methods: As the mental health leader and member of the internship team, several activities took place: 1) developed a comprehensive mental health questionnaire to identify perceived underlying causes of negative health outcomes; 2) implemented the questionnaire and compiled the data to submit to the NGOs; 3) identified the most pertinent mental health needs to be addressed in workshops; and 4) developed culturally appropriate educational and therapeutic workshops/resources for participants.

Results/Projected Outcomes: The data collected for the NGOs will influence future research and workshop development. A pre-test/post-test survey design evaluated the participants' mental health status before and after the workshops. The majority of the women had lower reported scores of stress, anxiety, and depression, and higher

SOCIAL & BEHAVIORAL SCIENCES

Name: Thompson, Elyse
Practicum Site: ChildObesity180 at Tufts University
Location: Boston, MA
Title: Healthy Kids Out of School Project Coordinator

Introduction: Healthy Kids Out of School (HKOS) is an initiative of ChildObesity180, a nonprofit organization working with diverse stakeholders and sectors to reverse the trend of the childhood obesity epidemic. HKOS partners with leading out-of-school time (OST) organizations, like Girl Scouts, 4-H and youth sports, to promote healthy habits in their unique programs. As an HKOS Project Coordinator, the goal was to increase and streamline outreach efforts with partner organizations, develop and disseminate health communications, and research new OST areas that could benefit from an HKOS partnership.

Methods: Activities included: 1) Developing health communication materials and videos for partner organizations 2) Performing outreach and engagement with partner organizations 3) Assessing child obesity prevention community resources in the form of an environmental scan 4) Conducting literature reviews on topic of youth sports concession stands to result in key informant interview guide 5) Performing statistical analysis on preliminary youth sports concessions perceptions data.

Results/Outcomes: As a result of research and outreach, new and diverse partnerships were developed, and previous partnerships strengthened. The literature review will lead to a key informant interview guide for youth sports environments, eventually improving access to healthy foods at sports concession stands. HKOS will continue to disseminate health communication materials and videos to partner organizations.

Name: Vanture, Sarah
Practicum Site: Center for Future Technologies in Cancer Care
Location: Boston, MA
Title: Research Assistant for Core Needs Assessment

Introduction: Well-developed point-of-care (POC) cancer screening tools have the potential to provide better cancer care to patients in both developed and developing countries. However, new medical technology will not be adopted by medical providers unless it addresses a population's existing needs and end-users' preferences. The goal of this practicum was to assess primary care providers' level of awareness, interest, and preferences in using POC cancer screening technology in their practice and to provide guidelines to CFTCC for future POC technology development.

Methods: Using the results from a self-administered online survey completed by 350 primary care providers, I analyzed a data set using SAS 9.3. Chi-square and multivariate logistic regression analyses were used to show the effect of demographic variables on various outcomes of interest such as interest in using POC technology. Odds ratios, 95% confidence intervals, and p-values were reported for each association, and p-values less than 0.05 were considered to be significant.

Results/Outcomes: We found that primary care providers who understood *why* POC technology could be useful were more likely to be interested in using POC technology compared to providers who did not. Potential end-users of POC cancer screening technology must be given a thorough explanation of the benefits of the technology for them to make an informed decision about using such technology in their practice.

Name: Vu, Thomas
Practicum Site: Campus Kitchens
Location: Boston, MA
Title: Nutrition Education and Garden Fellow

Introduction: The Campus Kitchens Project (CKP) is a national student service program aimed at combating hunger through implementing food systems and helping communities empower themselves. Through partnership with University of Massachusetts Boston and nearby public schools, Campus Kitchens at UMass Boston (CKUMB) recovers food from college cafeterias, food banks, and grocery stores to resource, prepare, and deliver meals to communities in need of food assistance. On top of meeting hunger and nutritional needs, CKUMB also provides empowerment through education to its clients, such as nutrition education to children in Project REACH, and directly volunteering with homeless shelters and other organizations in need of food assistance.

Methods: Using data compiled every month by CKUMB, I compared the pounds of food and number of meals resourced and donated this summer to that of previous summers. I also worked with staff and students of Project REACH to implement a nutrition education curriculum that teaches mindful eating. These two activities are part of The Campus Kitchen's mission to use resources to meet hunger and nutrition needs in the community and empower the community with educational benefits.

Results/Outcomes: Campus Kitchens' mission to fight hunger relies on effective food systems that not only recover nutritious foods for organizations in need of food assistance, but also empower people with proper nutrition education. Analyzing these data will give insight to possible barriers to meeting our goals as well as provide information for improvements to the program.

SOCIAL & BEHAVIORAL SCIENCES

Name: Yeksigian, Catherine

Practicum Site: Girls' LEAP

Location: Dorchester, MA

Title: Data Intern

Introduction: Girls' LEAP (Lifetime Empowerment and Awareness Program) is a non-profit that teaches girls ages 8-18 in the Boston area how to keep themselves physically and emotionally safe. This is achieved through courses that teach girls violence prevention and empowerment techniques. These courses are led by college-aged women and assisted by teen mentors. Girls' LEAP administers surveys to each participant before and after the program to measure the participant's level of empowerment, safety and mentor-ship. The purpose of this practicum was to develop a method for all survey data collected to be stored in the data platform Salesforce. This would allow the organization to ensure that data is entered correctly and would allow the organization to quickly compare pre and post data.

Methods: Activities included developing a custom "object" in Salesforce so Girls' LEAP could store its pre- and post-intervention survey data on the software platform. This involved learning the Salesforce software, designing a way for the data to be stored and building a report so that all survey data could be easily summarized. The object was designed to include quality checks that ensure that all data was correctly recorded.

Results/Outcomes: Girls' LEAP will have increased capacity to evaluate their pre and post programming implementation data. The organization will be able to use this data to report outcomes to donors and evaluate how well participants are understanding the course material.