

Practicum Abstracts 2024

Degree: MPH-45

Field of Study: Generalist

Project Title	Project Summary or Abstract
Socioeconomic and Racial Disparities in Sepsis Outcomes in the United States	<p>Sepsis represents life-threatening organ dysfunction due to a dysregulated host response to infection. Sepsis is one of the most common causes of in-hospital mortality and the incidence of sepsis has been increasing annually. Therefore, it has been and will be critical to address how we can improve the outcomes of sepsis. Based on this, we conducted the retrospective observational study to describe racial, sex, and socioeconomic disparities in the management and outcomes of sepsis, using the national inpatient sample database. This study is a retrospective study using the National Inpatient Sample data from 01/2017 to 12/2019. The National Inpatients Sample is the largest publicly available all-payer inpatient database in the United States. The National Inpatient Sample was queried for all adult patients (≥ 18 years) who were admitted for the primary diagnosis of septic shock from January 2017 to December 2019. Sepsis was identified with the primary diagnosis of any of the International Classification of Diseases, Tenth (ICD-10) revision codes. The primary outcome is in-hospital mortality. Secondary outcomes include length of stay in survivors, total costs, cost/day, the utilization of mechanical ventilation, renal replacement therapy, do-not-resuscitate orders, and palliative care consultation. We investigated the impact of racial, sex, and socioeconomic factors on these outcomes using multivariable logistic regression analyses. In this study, female received less mechanical ventilation, less renal replacement therapy, and more palliative care compared to male. Racial minorities received more aggressive care (more mechanical ventilation and more renal replacement therapy) while they had less DNR orders. In addition, higher socioeconomic population received less aggressive care (less mechanical ventilation, less renal replacement therapy, and less vasopressors) while they received more palliative care and had more DNR orders. This study highlights the pattern of disparity of sepsis care that exist in the United States.</p>
Febrile Illness in Maternity Hospitals in Sierra Leone: A	<p>Background: Sierra Leone faces significant challenges in maternal healthcare due to its high maternal mortality rate, largely attributed to febrile illnesses. Maternity hospitals, where pregnant women receive care, are critical in this context. Febrile illnesses can have severe consequences for both mothers and</p>

<p>Comprehensive Exploration</p>	<p>newborns. Understanding the prevalence, causes, and management of febrile illnesses in maternity hospitals is essential for improving maternal and neonatal outcomes in Sierra Leone.</p> <p>Objectives: This project aims to comprehensively investigate febrile illness in maternity hospitals in Sierra Leone. Specifically, it seeks to (1) assess the prevalence and distribution of febrile illnesses among pregnant women, (2) assess the maternal and neonatal outcomes, (3) identify the pathogens responsible for these illnesses, (4) evaluate the existing management protocols and their effectiveness, and (5) propose evidence-based recommendations for improving the diagnosis and management of febrile illnesses in maternity hospitals.</p> <p>Methods:</p> <ul style="list-style-type: none"> • First stage: Retrospective analysis of medical records to identify common pathogens, and qualitative interviews with healthcare providers and patients to assess management practices and patient experiences. Additionally, laboratory testing will be conducted to confirm the etiology of febrile illnesses. Data will be analyzed using appropriate statistical methods and thematic analysis. • The second stage: Capacity Building Workshop for healthcare providers. <p>Main goal: This training will help to increase the awareness and capacity of healthcare professionals in dealing with febrile illness.</p> <p>Objectives: Share with the providers the findings of the study and update the protocol accordingly.</p> <p>Expected Results:</p> <ul style="list-style-type: none"> - It is expected that this study will provide a comprehensive understanding of the landscape of febrile illnesses in maternity hospitals in Sierra Leone. The results will include prevalence rates, the identification of causative agents, outcomes and insights into current management practices. <p>Conclusion: Febrile illnesses in maternity hospitals represent a critical public health issue in Sierra Leone. By addressing the knowledge gaps through this project, we aim to enhance the quality of care provided to pregnant women and reduce maternal mortality. Improved management and prevention of febrile illnesses in maternity hospitals can lead to healthier pregnancies, safer childbirths, and ultimately better prospects for maternal and neonatal well-being in Sierra Leone.</p>
<p>Correcting medical mistrust within the African American</p>	<p>Churches have been noted as a trusted source of health information for African Americans. Historically, churches have been considered the cornerstone of African American communities with their mission extending to social, economic, and political issues affecting their congregants and the larger community.</p>

<p>community through engagement with the African American church</p>	<p>Nationwide, 87% of African Americans report belonging to a formal religious affiliation and churches have been recommended as a venue for reaching the larger African American community with health-related information and programs by matching churches to health and wellness it can bridge the gap of medical mistrust.</p>
<p>Systems and Technologies for Public Health Peacetimes and Emergencies</p>	<p>For the Practicum project, the MPH-45 Generalist student assessed systems and technologies for public health peacetimes and emergencies.</p> <p>Assessments of health systems included operational commonalities and contrasts, and of AI technologies included algorithmic tools and automatable tasks for these systems.</p> <p>In collaboration with a Practicum Team, these assessments yielded opportunities to mitigate and respond to public health crises.</p> <p>Scoping the assessments with guidance from Harvard University T.H. Chan School of Public Health Practicum preceptors and collaborators produced a 4Es framework (i.e., crisis that is Expected, that Emerges, that Exacerbates, and that Exceeds health system capacities and capabilities) for mitigation and response.</p> <p>Applying these assessments and framework in case study presentations to U.S. government entities validated their usefulness in escalating crises, including epidemics, environmental disasters, accidents, or geopolitical incidents.</p> <p>Leveraging these systems and technologies appropriately can generate needed intelligence for public health readiness and response activities.</p> <p>Regarding the assessments, analysis of demographic transition models, risk factors for morbidity and mortality, disease/injury related disability-adjusted life years, and social determinants of health identified vulnerable populations which, given propensities to seek healthcare, can overutilize peacetime health systems during emergencies.</p> <p>Elucidating the overutilization of health systems and the siloed, single-hazard public health capacities and capabilities in an emergency supports the need for holistic cooperation and collaboration among citizen-volunteers, non-governmental organizations, public and private partnerships.</p> <p>Zero-sum biases can be addressed by methodological approaches that complement response gaps and heuristics.</p>

	Algorithms and automation can augment and scale the motion planning of populations and resources in challenging circumstances.
Strategic Plan for Emerging Rare Cancer Research Organization	My practicum project will be to create a Strategic Plan for the Rare Cancer Research Foundation, a 501(c)3 nonprofit dedicated to curing rare cancers through strategic investments and innovative collaborations that facilitate effective research and accelerate deployment of promising therapies. I will create and execute a strategic planning process with the leadership of the organization, including consolidating feedback from all staff members and stakeholders and creating a document that will serve as a Strategic Plan for the organization going forward. My process will be to familiarize myself with the existing work of the Rare Cancer Research Foundation, understand the mission, vision, and strategic priorities of the organization and its place within the field/sector, meet with staff members and leadership of the organization to understand the work of the foundation, research options for creating Strategic Plan documents from external sources, consolidate this information and create a Strategic Plan for the Rare Cancer Research Foundation, then test, refine, and finalize the Strategic Plan with the Board of Directors.
Investigating Turnover and Burnout among Clinical Staff at a FQHC	Many Federally Qualified Health Centers struggle with turnover and retention of qualified staff, resulting in decreased quality of care, decreased patient satisfaction, and increased personnel costs for the organization. This qualitative study sought to explore reasons for turnover among patient-facing staff at a FQHC in Connecticut. Focus groups and individual interviews were conducted with 30 staff members representing 5 different staff roles at the health center, and data was subsequently analyzed to identify themes. In contrast to results from a national survey which indicated that financial opportunities were the top reason for turnover, qualitative interviews suggested a more complicated picture. Rather than being purely based on income levels, many staff in this mission-focused workforce named financial incentives as only one factor among many. Other desirable workplace characteristics, such as recognition of hard work, excellent clinical managers, flexible schedules, and strong teamwork were able to offset the lower pay. However, organizational silos, as well as a high focus on productivity with inconsistent recognition of the quality and difficulty of the work being done, contributed to a high degree of reported burnout among interviewed staff. Staff provided a wide variety of ideas for the organization to improve staff well-being and reduce turnover.
Activate, Support and Empower Residents	Singapore has rolled out enrolment of its eligible residents to primary care providers under the HealthierSG program. The ability of the family doctor to provide preventive, holistic, and longitudinal care for the

<p>through the Digital Health Community Approach in Central and North Singapore</p>	<p>resident depends on the availability, accessibility, and effectiveness of the myriad of social and health services of community partners.</p> <p>To enable this, it is critical to effectively leverage digital technology. The National Healthcare Group hence envisions an innovative digital health community to enable NHG’s community model - Community of Care (CoC) to thrive. The digital health community enhances the operations of the in-person place-based support in the neighborhoods, and extends its capabilities and reach to serve more residents in new and more effective ways.</p> <p>To achieve this vision, NHG will develop a suite of digital solutions for the digital health community, and create “Digital CoC Playgrounds” in collaboration with residents and partners to deploy, enhance, and further these solutions for a thriving CoC. The digital health community mirrors and supports the CoC by providing Residents Support, bringing Residents Together, and enabling Resident Ownership. It also brings Partners Together, to collaborate for digital health for residents.</p> <p>The Resident’s Health Wallet has been identified as a key digital product. The practicum project focuses on the conceptualization of the Health Wallet through ideation workshops with community partners, residents, and key healthcare stakeholders. The conceptualization process aims to understand the needs and challenges of the identified parties and ideate a possible minimum viable product for the Health Wallet.</p>
<p>Financial Toxicity in Patients Undergoing Immunotherapy: Can Weight-Based Dosing Rescue Patients?</p>	<p>Financial Toxicity refers to the implications of cancer costs on patients' care experience and the resulting burden and distress. It is an area of evolving interest in cancer care to minimize the cost of cancer care, especially for newer medications such as Immune checkpoint inhibitors. These medications transformed the landscape of cancer, with improved survival and outcomes for many patients. However, the economic cost is high for patients and healthcare systems alike and has potentially harmful implications for both. We aimed to explore methods to reduce financial toxicity in patients receiving immune checkpoint inhibitors, particularly through dosing based on body weight rather than the currently approved flat dosing. We explored this in underweight patients (< 50 Kgs) which would reduce the total dosage amount and subsequently the cost. We also explored the relative incidence of side effects for standard flat dosing</p>

	<p>compared to weight-based dosing, another important aspect that has additional financial implications, especially for patients hospitalized because of side effects</p>
Contributor for Book on Digital Health Landscape	<p>I was a contributor for Digital MD, by Dr. Liz Kwo MD, MBA, MPH. Over the course of the practicum I reviewed 4 chapters of the book in-depth, conducting research on digital health innovations in the United States, and making direct edits to the narrative flow and direction. I leveraged my course materials, research, and life experiences to prioritize topic areas and form opinions about salient trends in the digital health ecosystem.</p>
Development of a Natural Language Processing Model to Analyze EHR Socioeconomic Data Pertaining to Lung Cancer Evaluation in an Urban Safety Net Hospital System	<p>Due to the vast mortality impact of lung cancer, it is imperative to develop novel strategies to reduce lung cancer mortality and ascertain SES drivers.</p> <p>Prior studies have shown an inverse association between SES and pre-cancerous lesions, therefore a practicum was selected which could leverage artificial intelligence to further elucidate such associations. A program was developed to enable Web Extraction/natural language processing to apply to publicly available databases, to mine data for SES associations, and highlight structural racism in lung cancer evaluation. The ultimate goal of which is to publish, disseminate and implement a relevant natural language processing model to benefit of low SES populations.</p> <ul style="list-style-type: none"> •New York City Health and Hospitals (H&H) is the public “safety-net” hospital system for the City and is the largest urban healthcare system in the U.S. •More than 1 million patients served each year <ul style="list-style-type: none"> •70 locations •11 acute care sites with >7
Risk Factors Associated with	<p>My practicum consisted of various studies investigating the risk factors behind acute vision loss due to eye stroke. Epidemiological distribution and causes of these pathologies shed light on preventive strategies</p>

<p>Sequential Non-Arteritic Ischemic Optic Neuropathy (NAION)</p>	<p>and healthcare resource allocation. One of the studies was conducted at a US tertiary care center from January 2016 to February 2023, the cross-sectional study reviewed 1197 patient records with ICD-10 codes for ION. Non-arteritic anterior ischemic optic neuropathy (NAION) was the most common cause (72%), including variants like sequential NAION (30.6%) and incipient NAION (3.2%). Giant cell arteritis represented 7% of cases, while optic disk drusen and shock-induced ION accounted for 2% each. Posterior ischemic optic neuropathy was diagnosed in 2% of patients. Notably, 13% of cases remained idiopathic. The study's comprehensive analysis highlights the complexity of optic neuropathies and the significant proportion of cases with unknown etiology, emphasizing the need for further research in this area. This research contributes to both clinical understanding and public health initiatives aimed at disease prevention and health promotion.</p>
<p>Health, Well-Being & Choice: Biomedical innovations to expand options and improve sexual & reproductive health worldwide</p>	<p>The Population Council's Center for Biomedical Research (CBR) is a vibrant hub of scientific investigation and product development. Their mission is to develop technologies to promote sexual and reproductive health and rights in lower- and middle-income countries.</p> <p>Under the medical director for CBR, Dr. Lisa Haddad, my practicum focused on two projects aimed at expanding reproductive healthcare options and improving reproductive health worldwide.</p> <p>First, I supported a team conducting qualitative research in Zimbabwe and South Africa on a study about a Dual-Prevention Pill for preventing both pregnancy and HIV. For this specific project, I worked with the team to analyze qualitative data, including interviews with young women about their perceptions and experiences with the dual-prevention pill. As part of this project, I focused on the following:</p> <ol style="list-style-type: none"> 1. Translated a survey tool into a rapid analysis tool to pilot with initial qualitative data from Zimbabwe and South Africa 2. Coded transcripts of user interviews using the rapid analysis tool 3. Distilled coded qualitative data into clear themes that can be translated across countries <p>Second, I worked on a communications project focused on the importance of expanding women's options, including vaginal rings. I supported a team member by conducting a literature review on vaginal rings and helping to create a brochure about CBR's thought leadership in this space. As part of this project, I explored</p>

	<p>the following:</p> <ol style="list-style-type: none"> 1. Communicating the benefits of vaginal rings 2. Identifying CBR's unique thought leadership in this space 3. Finding ways to communicate clearly about complex products 4. Continuing to center user experiences
<p>The Association of Population-Level Factors with State Mass Shooting Incidence in the United States from 2015-2021</p>	<p>Objectives: This analysis aimed to examine the relationship between the state incidence of mass shootings with state-level measures of homicides, suicides, drug overdoses, firearm mortality, gun ownership, overall mental illness, untreated mental illness, educational attainment, and unemployment.</p> <p>Methods: A Poisson regression modeling mass shooting incidence as a function of state-level predictors was used because mass shooting incidence is derived from count data with a high frequency of zeroes.</p> <p>Results: Firearm mortality rate ($p=0.036$ [0.01161, 0.34375]) and registered weapons per 100,000 ($p=0.003$ [0.00008,0.00040]) are statistically significant positive predictors of mass shooting incidence. Suicide mortality rate ($p=0.005$ [-0.4318, -0.0745]) and the prevalence of high school graduates per 100,000 ($p=0.000$ [-0.0001, -0.0000]) are statistically significant negative predictors of mass shooting incidence.</p> <p>Conclusions: While further research investigating the role of these and other population level factors in the frequency of mass shootings is needed, this analysis suggests that the prioritization of overall education and measures to decrease firearm possession may reduce mass shooting incidence.</p>
<p>Diversity & Inclusion in Patient Recruitment for Clinical Trials</p>	<p>The practicum project involved conducting research on the critical issue of diversity in patient recruiting. The project consisted of three phases. Phase One involved research on the evolution of U.S. health policy with a focus on diversity, equity, and inclusion (DEI) issues and, specifically, the DEPICT act and the comparison of the initial draft text and the passed CAA bill. Phase Two identified what Parexel and its key competitors (both global CROs and select pharma clients) are doing in this area. During this phase, the student conducted interviews with Parexel employees and industry experts to gather information on the initiatives and programs that various companies were implementing to address diversity in patient recruiting. Phase Three involved developing a list of emerging companies with capabilities or solutions for diverse patient recruiting for clinical trials across the patient journey. The final deliverables included a pdf readout and a conference summary (for the 3rd Chief Patient Officer Summit held in Boston during July 17-19, 2023). The readout was presented to Parexel's preceptor, and both deliverables were delivered to the senior leadership at Parexel and Goldman Sachs, the student's employer.</p>

<p>Designing a proposed protocol for clinical and administrative operation for a post-acute care facility for older adults in Thailand</p>	<p>This project is to study existing model of post-acute care around the world to formulate ideas on what Thailand can follow. The aspect of reviewing includes available services, staffing and team, clinical benefit, administrative aspects and financial model. Themes identified were used to formulate suggestion for future care model development for post-acute care for older adults in Thailand.</p>
<p>Taiwan: Opportunities to Mitigate Public Health Crisis During Disaster</p>	<p>For my practicum, I partnered with two of my fellow students – Kasey Pomeroy and Faisal Reza. Together, we developed a comprehensive framework to assess a potential crisis in a U.S. allied nation and its implications for public health. Our approach to this endeavor involved an assessment of the healthcare systems in this country, emergency response infrastructure, geospatial analyses of national public health assets, identification of opportunities/shortfalls, and our recommendations to mitigate public health disaster.</p> <p>While our team collectively worked on each category as a team, my area of focus were geospatial implications of asset distribution and how to strategically address population needs in times of crisis. The primary product that we created to communicate our findings were a series of maps to represent different levels of public health crisis in a crisis progression format. These maps included access to care calculations relative to hospitals, airports, nuclear power sites, convention centers, and many other public health assets.</p>
<p>U.S. Cannabis Policy & Research Analysis</p>	<p>In this project, the focus was on analyzing and understanding the intersections between U.S. cannabis policy, public health, and research, with a particular emphasis on youth. The project's primary objective was to dissect the complexities and nuances of cannabis legalization and its implications on public health, especially among youth populations.</p> <p>The first deliverable was the creation of a comprehensive database compiling various dates significant to medicinal and recreational marijuana policies in the U.S. This database served as a foundational tool to understand legislative processes and policy dynamics across states, facilitating a better grasp of the evolving landscape of cannabis legalization.</p> <p>The second deliverable was a narrative review, focusing on the research landscape concerning youth</p>

	<p>impacts post-cannabis legalization. This review shed light on the variability of policy effects, trends in young adults' cannabis usage, and the increase in simultaneous cannabis and alcohol consumption. It highlighted the urgent need for targeted public health strategies and educational programs to mitigate risks associated with increased cannabis accessibility and consumption among young populations.</p> <p>Finally, translating academic research into public knowledge, an infographic was developed, encapsulating the main themes from the narrative review. This visual tool aimed at simplifying complex information into accessible content for the general public, underlining the importance of nuanced policy-making and the necessity for enhanced public health interventions.</p>
<p>Youth Engagement in Physical Activity and FIFA11 Injury Prevention Program</p>	<p>My practice project sought to increase physical activity in the youth population of Durham, North Carolina while also decreasing rates of activity-related injuries. In the U.S., between the age 11-17 nearly 81% of kids are insufficiently physically active. Moreover, approximately 19.7% of children/adolescent in the USA are considered overweight or obese.</p> <p>Through the soccer FIFA Medical Center, we partnered with local community soccer clubs to extend outreach to local youth. To help with engagement, we partnered with local physical therapists and athletic trainers that served as liaisons with the club and athletes. They worked with the kids on a weekly basis. Additionally, we trained these physical therapists and athletic trainers to implement an injury prevention program for the athletes participating in the program. Lastly, we partnered with two national industry partners- DashR and VALD that supplied the equipment required for the program.</p> <p>We had 56 athletes (age 12-14) participate in the program. Participation in the program increased likelihood of continuing to play the following season. Additionally, through the injury prevention program, we were able to decrease injury and increase overall performance scores.</p>
<p>Evaluating Economic, Policy, and Care Delivery Considerations Associated with</p>	<p>My practicum project compares and contrasts several CMS value-based care models (REACH ACO, Medicare Shared Savings Program, and Medicare Advantage). In addition to providing a general overview of each model and related considerations, I addressed three programmatic considerations: (1) commercial/business pros/cons, (2) policy pros/cons, and (3) economic implications, of each program. I also discussed critiques of these models, including sustainability concerns.</p>

Government Value-Based Care Programs	
<p>Developing Mentorship Training Program for Reducing Cervical Cancer in Medically Underserved Areas of Texas</p>	<p>Developing Training and Mentoring Curriculum for Healthcare Providers to Reduce the Burden of Cervical Cancer in Medically Underserved Areas (MUAs) of Texas.</p> <p>Background: Cervical cancer-related death in Texas is 2.8 per 100,000 women, 27% higher than comparable national rates. Many MUAs have a shortage of providers trained to diagnose and treat preinvasive cervical cancer. To our knowledge, there are currently no free courses for colposcopy in Texas and women are lost to follow-up in part because of a lack of available providers to perform diagnosis/treatment procedures.</p> <p>Methods: The mentorship training is tailored for clinical providers (doctors and advanced practice providers) in MUAs of Texas. The mentorship program will include a self-paced review of required recorded lectures, two MD Anderson cervical cancer prevention courses including didactics and hands-on training, colposcopy image review sessions in collaboration with the MD Anderson team, identify a clinical mentor, attend a set number of Project ECHO Cervical Cancer Prevention sessions, present patient cases during project ECHO sessions, perform colposcopy, cervical biopsy including high-grade cases, endocervical curettage, and vulvar biopsy.</p> <p>Results: We anticipate overall knowledge, confidence, and skills to improve among participating healthcare providers. We expect these capacity-building efforts to make cervical cancer preventive care more accessible to medically underserved communities by improving the expertise of healthcare providers in these resource-limited settings.</p> <p>Conclusion: To eliminate cervical cancer as a public health problem, secondary prevention training for providers in low-resource settings is essential. This comprehensive training is expected to support capacity-building efforts for cervical cancer prevention in Texas.</p>
<p>Developing planning guide to facilitate emergency event</p>	<p>The planning guide is intended to serve the programmatic needs of health emergency preparedness and response teams to meet strategic goals of Health Emergencies Program, to improve planning and functional processes, program management of emergency event preparedness & response and related</p>

<p>management for the fragile vulnerable settings countries in the Eastern Mediterranean region</p>	<p>activities to support the WHO Country Offices of the Eastern Mediterranean region to guide emergency response teams during all phases of the emergency event management and use the lessons learned to adjust next programming cycle and improve the delivery of health operations on the ground.</p> <p>The Planning guide focuses on the required actions that need to be taken by the WHO emergency preparedness & response teams formed under the Incident Management system during the emergency</p> <p>The planning guide has been fully aligned with the WHO Emergency Response Framework (ERF) and other WHO guidelines for emergency event management.</p>
<p>Integrative Telehealth for The Sierra Mazateca</p>	<p>The practice project focuses on establishing an integrative telehealth clinic in Huautla de Jiménez, Oaxaca, to address healthcare accessibility and quality for the Sierra Mazateca's indigenous population. This telemedicine initiative aims to merge advanced telehealth solutions with local traditional healthcare practices, offering a culturally sensitive approach to managing chronic diseases prevalent in the community.</p> <p>Huautla de Jiménez is strategically chosen for its central location, cultural significance, and relatively better infrastructure, making it an ideal site for the clinic. The project plans to utilize telemedicine to provide continuous, accessible care, incorporating local traditions and languages to ensure community acceptance and effective communication.</p> <p>The clinic's operations will rely on a blend of biannual in-person screenings and regular telehealth follow-ups, facilitated by a team of medical professionals and trained volunteers. The focus will be on chronic disease management, excluding emergency services to streamline care and resources. Key aspects include ensuring reliable internet connectivity, using telemedicine platforms like WhatsApp and Google Drive for patient management, and maintaining cultural sensitivity through the integration of traditional medicine practices.</p> <p>Financial sustainability will be supported through church contributions, local donations, and strategic partnerships, emphasizing community involvement and volunteerism. This project aims to bridge the healthcare gap in Sierra Mazateca, leveraging technology to enhance healthcare delivery while respecting and incorporating the region's rich cultural heritage</p>
<p>Food Service Safety Toolkit for Non-Profits</p>	<p>Every year thousands of individuals working in the food service industry are injured and become ill. As reporting requirements differ for non-profit organizations, recognition of the hazards, training and risk prevention are key to keeping volunteers safe.</p>

	<p>Safety For NonProfits is committed to increasing awareness of safety and health issues faced by nonprofit organizations and providing pro-bono advisory services at their workplaces.</p> <p>The practicum project involved development of a toolbox with resources to prevent foodborne illness and common injuries associated with a variety of food service activities. The toolbox will be available to interested nonprofit organizations in line with Safety For NonProfits goal to make every nonprofit organization in the U.S. a safe and healthful place in which to work and volunteer.</p> <p>Food safety resources are often very specific to licensed full-service kitchens. Many don't address general safety precautions and rely heavily on internal training. The food service safety toolkit will include topics such as hand washing/glove use, communicable disease and exclusion, safe food temperatures and thermometer use, food protection, liability, food defense, knife safety through posters, guidance documents and short micro training videos. With limited time and budgets, the food safety resources toolkit provided through S4NP has been developed with feedback from a targeted survey and is designed to support the critical work of our non-profits who are addressing food insecurity across the nation.</p>
<p>Maternal, Child, and Black Father's Health</p>	<p>The purpose of this practicum experience was to learn more about black fatherhood inclusion during the perinatal process, and to consider barriers that may exist, and ways to address barriers through the development of training and outreach efforts, with the goal of considering implications on Maternal and Child Health for Black Women, Children, and Families. Specifically, the goal was to explore the topic and develop associated training and outreach that can be used to address the issues discussed, incorporating/adapting the Dignity Model, developed by my preceptor. In addition, the goal was to consider ways such training and initiatives could improve the practices' ability to meet the needs of black males, explore new ways of offering services, and create new dimensions of the practice that could be leveraged in the future, related to health and mental health within agencies, medical settings, and beyond</p>
<p>Reimagining the Policy Core for the Center for Birth Justice & Equity</p>	<p>The MPH candidate, Julia Reeves, worked with the California Preterm Birth Initiative to transform, revamp, and revise the Policy Core in preparation for the organization's transition from the California Preterm Birth Initiative to the Center for Birth Equity and Justice. She collaborated with internal and external partners and leadership to develop a report, map how the Policy Core functions as a cross-sector collaborative, and created a logic model based on community insight and birth justice and equity values to guide the next phase of the Policy Core.</p>

<p>Chronic Disease and Cancer Early Detection Initiative (CCEDI)</p>	<p>Background: The Boston Public Health Commission (BPHC) Chronic Disease and Cancer Early Detection Initiative (CCEDI) is designed to normalize risk-based cancer early detection for Boston residents. The CCEDI acts as the operating framework for the Cancer Plan which will augment local activity and investment to mitigate the impact of social determinants of health on chronic disease and cancer outcomes.</p> <p>The Plan focuses on community engagement and clinical services, including public-facing communication campaigns to create a more robust response to call-to-action for cancer early detection, as well as provider engagement to standardize risk-based cancer early detection.</p> <p>Practicum role: I continued the development of The Cancer Plan by conducting primary research to update and provide a clearer view of the burden of cancer by each of the Boston’s most vulnerable populations including LGBTQ+ City of Boston residents. In addition, I was involved in connecting with community and clinical stakeholders to glean insights of the cancer burden and maintain the KUMU Data Visualization Tool database.</p>
<p>Evaluation of Factors Affecting Aortic Dilation in Children with a Bicuspid Aortic Valve</p>	<p>Bicuspid aortic valve is the most common congenital heart condition, it is estimated to be present in 1.3% of the population. Aortic dilation is a common finding in patients with a bicuspid aortic valve with up to 50% or more of patients affected. The most common complications of aortic dilation are aortic aneurysm and aortic dissection. Factors affecting the degree of dilation and the appropriate dimensions for surgical intervention are still being debated. A retrospective single institution cohort study was designed to evaluate potential factors which contribute to aortic dilation. The inclusion criteria were all patients with a bicuspid aortic valve who had at least 2 echocardiograms at Boston Children’s Hospital between 1990 to 2010. The exclusion criteria were patients with a diagnosis of aortopathy, hypertension, concomitant complex congenital heart disease or cardiomyopathy. The primary outcome was ascending aorta z-score from 2D echocardiograms. Further investigations will include evaluating change in aortic dimensions over time and determine factors that may affect the degree of dilation over time including levels of aortic stenosis or regurgitation, surgical or catheter based intervention as well as socioeconomic status variables such as the Child Opportunity Index.</p>
<p>PHONE PROJECT</p>	<p>Our homeless population often utilizes the ER for shelter and non-emergent healthcare visits. The reasons behind their use of the ER for these needs are likely complex, but may be due in part to commonly</p>

	<p>associated comorbidities such as mental health issues, neurocognitive deficits, or substance abuse. What we do know is that this population is difficult to reach due to lack of connectivity, unstable shelter usage, and lack of a social network. Studies have shown that while homeless individuals use phones to help with healthcare appointments and reminders, they often struggle to afford continuous plans and devices. This project aims to lower homeless use of the ER for sheltering by ensuring digital equity via device hand out in the ER setting and adding homeless patients to care management networks. Through these care networks, representatives will ensure patients are on an expedited path to housing and staying consistent with their primary care.</p>
<p>Preventing Veteran Suicide by Promoting Lethal Means Safety and Effective Assessment and Management of Suicidality</p>	<p>This focus of this practicum was preventing veteran suicide through assisting with new approaches to lethal means safety and assessment, management, and treatment of suicidality. The practicum included several narrow literature reviews: BCBT-SP, CAMS, Polyvagal Theory, HeartMath, and firearm ownership and storage among veterans. The BCBT, CAMS, Polyvagal, and HeartMath literature review will be used by the organization to inform their clinical work with veterans experiencing suicidality. The final literature review of firearm ownership and storage among veterans was used to create a discussion guide intended for laypersons who are concerned that a veteran in their life may be at-risk for suicide. A draft version of the discussion guide was created; it explains how to recognize a veteran may be at risk and how to start a conversation about suicide, with particular focus to why and how to talk to them about firearms. The final component of the practicum was to provide support in starting a local coalition aimed at prevention firearm suicide among veterans. Assistance was provided in identifying potential collaborators, planning the kickoff meeting, and creating communications materials.</p>
<p>Ex vivo Phantom for Near-Bone Soft Tissue Vasculature in Photoacoustic Imaging</p>	<p>Photoacoustic imaging is an emerging preclinical modality that uses a combination of optics and acoustics mechanisms to visualize differences in optical absorption in target imaging objects. Photoacoustic imaging is potentially suitable for visualizing vasculature, as the hemoglobin in red blood cells is a prominent heat absorber and therefore serves as a great biomarker. Due to acoustic reflection, diffraction and scattering, photoacoustic imaging is subject to artifacts when the target soft tissue is close to bone. We construct an ex vivo phantom featuring vascularized soft tissue near long bone, to facilitate evaluation of photoacoustic images and to enable future research on artifact removal in photoacoustic imaging.</p>
<p>Substance Use and Homelessness among</p>	<p>Background: Substance use among people experience homeless (PEH) is high and associated with broad range of negative health outcomes. Intervention and efforts to improve outcomes and increase availability</p>

<p>Emergency Department Patients and Impact of Substance Use Navigator Program</p>	<p>of affordable housing have mainly originated from the public health sector and government. The role that large community-based health systems may play has yet to be established. A new health system-based model, substance use navigator (SUN) program, have implemented at acute-care facilities in a large, integrated healthcare system in Northern California. SUNs, well-trained navigators, work with care team to create a welcome environment to help substance use patient determine the treatment goal, conduct education on treatment options and connect patients to treatment centers based on shared decision.</p> <p>Methods: We applied mixed method to combine quantitative data from EHR and qualitative interview to identify homeless patients, and workflow for substance use navigator to evaluate the impact of SUN program in patient health care utilization and all-cause mortality among substance use homeless patients.</p> <p>Results:</p> <p>During 1/1/2019 - 9/30/2023, 4.5% (n=51,105) ED patients had evidence of homelessness, among which 47.7% had diagnosed with substance use. The substance use patients had elevated risk for almost all chronic conditions, and has significantly higher mortality (6.4% vs. 5.2%) compared to non-substance use during 2 years of follow-up time. The SUN program did not decrease ED utilization, but significantly decreased same-day hospitalization and all-cause mortality by 40% during the 2- year follow-up period.</p> <p>Conclusion:</p> <p>The SUN program has effective in reducing mortality rate for substance use homeless population by helping them to transfer to community-based substance use treatment program patient desired to. The finding sheds light on the role health system can play in collaboration with community partners, government agencies to create a fully integrated care model for substance use homeless patients.</p>
<p>Potential Crisis in Taiwan: Implications for Public Health</p>	<p>Our practicum project included a review of the current health system in Taiwan with a focus on emergency response and disaster preparedness. We combined interdisciplinary knowledge to integrate likely areas of vulnerability, geospatial awareness of population centers and critical infrastructure, and provided tailored opportunities for US policymakers to support Taiwan during a sustained crisis event. We used our analytic conclusions to created customized briefings for each agency to help guide their decision making on how to engage Taiwanese counterparts to assist in preparing for such events. Our project provided detailed and tailored opportunities for the National Security Council, Department of Defense, and Department of State to better understand the public health threats Taiwan may face during a disaster or conflict scenario as well as novel options for the community to support Taiwan.</p>

<p>Black Youth Suicide Prevention Project</p>	<p>According to the CDC 2020 report, suicide is the second leading cause of death among children and adolescents. For non-Latinx Black Americans, the highest rates of suicide were in children ages 10 to 14, and these rates will likely continue to rise. With Black children being such a vulnerable and under-researched population, there is a need to identify and deepen our understanding of unique modifiable risk factors. This will facilitate the identification of high-risk children for prevention and intervention models. Emerging evidence shows that trauma experiences, stigma of mental health care, and discrimination may contribute to poor psychological wellbeing in Black children; however, there is a dearth of research investigating how early racial trauma affects suicidality in Black children. Black children are more likely to perceive discrimination than any other racial group (Nagata et al., 2021). This discrimination shows up in incarceration rates, punishments within the school system, and microaggressions. Stigma has also been found to discourage help-seeking behaviors in Black adults; several studies have identified stigma within their community as a barrier to seeking treatment and some have hypothesized that this barrier may affect Black children’s access to mental-health professionals and interventions. However, there is a lack of studies considering how racial trauma and mental health stigma affect suicidality among Black children and adolescents aged 10 to 17. This study will examine whether suicidality among Black children is associated with trauma and stigma of mental help seeking intention.</p>
<p>Evaluating & Enhancing Kaiser Permanente's Food Sustainability Goal</p>	<p>The food we eat and the way it’s produced have profound ramifications on personal, public, and planetary health. Kaiser Permanente (KP) has long recognized this connection. In 2015, KP established a “sustainable food goal”, which calls for sourcing 100% of food locally and from producers who use “sustainable practices” by 2025. Despite the progressive nature of the goal, several enhancements to the food sustainability goal and the underlying data tracking/reporting processes should be considered if KP seeks to operate a procurement strategy that aligns with the scientific consensus on the ecological impact of food production, meets the urgency of the climate crisis, and leads the healthcare industry in sourcing/serving healthy food from sustainable food systems.</p> <p>Furthermore, beyond KP’s food procurement strategy, the organization has countless touchpoints with food. KP’s Food Is Medicine Center of Excellence (FIM COE) program, currently in development, represents KP’s most comprehensive stance on the connection between food and health. The strategy brings together these disparate touchpoints across the enterprise with the goal of reducing nutritional insecurity for</p>

	<p>members. The concept of food sustainability/sustainable food systems was left out of the FIM COE scope. As the FIM COE gains more public attention, it is critical to elevate the organization's food sustainability efforts and integrate them into the FIM COE.</p> <p>My practicum evaluated and enhanced KP's food sustainability goal, resulting in changes to the goal's language and data tracking systems. It also produced a framework for embedding food sustainability goals into the organization's broader touchpoints with food</p>
Brigham-To-Table: A Physician Wellness Initiative	<p>The goal of the Brigham-To-Table program was to offer a physician wellness initiative to combat the increasing public health challenge of burnout. The program was funded through grant support from the Brigham and Women's Physician Organization. The program ran throughout the summer of 2023 and allowed for groups of physicians to be able to connect with one another for meals outside of the hospital and to strengthen interpersonal relationships within the organization with their colleagues. Meals were available in multiple local establishments to allow participants to connect with one another in many venues. During the meals, structured conversation prompts were introduced to allow groups to tackle important topics related to organizational belonging and meaningfulness in work. Participants completed pre- and post-meal surveys, which were analyzed for determining the program's impact on individuals as well as the organization. Questions for the surveys were mapped to specific domains reflecting the organization's own well-being surveys that take place annually so that areas of high priority could be followed. Over the course of the 2023 program, nearly 200 physicians participated in nearly 50 meals. Feedback was strongly positive, demonstrating impact on connection to colleagues, personal relationships, overall wellbeing, and professional fulfillment domains. Insights were obtained to further promote the program into 2024 with organizational support.</p>
Patient Portal Improvement Project at San Mateo Medical Center	<p>This practicum was with the San Mateo Medical Center (SMMC). SMMC is a public County led hospital and clinic system fully accredited by The Joint Commission. SMMC operates outpatient clinics throughout the county of San Mateo and an acute-care hospital in the city of San Mateo. The goal of this project was to provide SMMC patients with critical and timely health information via the County's patient portal. In addition, a fully functional patient portal also provided the patients with another method of communication with their providers and care teams. Furthermore, a high functioning patient portal helped</p>

	<p>increase access to care, close care gaps in underserved populations, and improve patient experience, within the patient population of San Mateo County.</p>
<p>Changes in Primary Care Pediatrics Over the Past Decade</p>	<p>Primary care is the foundation of pediatric medicine. Health supervision, screening, coordination of care, and management of acute and chronic medical conditions have historically been critical components of pediatric primary care. Several policy interventions, such as establishing a medical home for pediatric patients, have been introduced over the past two decades to improve the quality of primary care pediatrics and access and increase health supervision visits and vaccine rates. Despite the push to emphasize primary care, several factors have contributed to decreased visits to primary care providers in outpatient primary care offices. First, high copayments and high deductible plans have increased costs for families seeking care for acute care sick visits. Second, urgent care centers with convenient hours for working families are now ubiquitous, telehealth visits promoted by insurance companies, and retail clinics all offer options for care away from the primary care office. Data shows that families now expect access to care when and where it is convenient for them and often not at the primary care office. I call it the “Amazonification of medical care.” Lastly, pediatric medicine has succeeded in decreasing classic pediatric vaccine-preventable illnesses that used to fill primary care offices with sick visits. Primary care pediatrics is evolving away from a practice of seeing sick children and managing their acute medical problems into a practice of managing chronic conditions such as mental health disorders. My MPH practicum project shows the impact of these changes in my independent primary care pediatric practice over the past decade.</p>
<p>Inpatient Experience Beyond Health Care: Improving Hospital Patient and Professional Experiences by Collaboratively Addressing Clinical Challenges, Determinants of Health, and</p>	<p>Significant opportunities exist to create a versatile and transdisciplinary collaborative taskforce utilizing the expertise of the frontline clinical professionals to improve both the patient and professional experiences at a 450-bed tertiary community teaching hospital located in the U.S. Midwest. We propose a holacratic collaborative approach to allow clinical and non-clinical departments to collectively contribute their expertise under overarching patient- and population-focused objectives while improving healthcare professional experience and engagement and preventing task saturation and burnout. We also propose solutions to identify and address common patient determinants of health and current organizational culture that would likely further improve our patient and professional experience and decrease hospital length of stay and readmission rate.</p>

Organizational Culture	
Nurses Should Use Ultrasonography For Difficult Intravenous Access	<p>Nurses are at the frontline of care for patients in various settings. In some cases, as part of patient care, intravenous (IV) access is needed. Most IVs are inserted by nurses. On some occasions, there might be difficulty obtaining one. The ultrasound, a sound wave-based imaging device with no radiation or known risks can be used to see the vasculature to obtain these IVs. Unfortunately, a lot of facilities do not have policies permitting nurses to use these devices to obtain IV access. This restricts and hinders timely care to patients as alternatives like attempting multiple blind insertion attempts, waiting for a physician or advanced practice provider to use the ultrasound to place one, or inserting a more high-risk access make no sense and increase the pain patients experience with each failed attempt. Also, this prevents nurses from being able to practice at their fullest potential. The best way would be for nurses to be trained to use the ultrasound to obtain IV access when current methods fail. Policies of hospitals and facilities should be updated to reflect this. Also, nursing bodies like the Emergency Nursing Association and State boards of Nursing of various states should promote the acquisition of this skill. Most importantly, patients want nurses to be able to acquire this skill for their care because they know we are competent in providing them care as frontline healthcare workers as we always have.</p>
Business Case For A New National Service Model In Concierge Medicine In Qatar	<p>My practicum project involved putting together a business plan for a National Model for Qatar's first concierge medicine clinic. The project was done in association with Mshereib Properties and Qatar Foundation the Umbrella company for both my primary place of work and Mshereib properties / Mshereib Downtown Doha -World's 1st fully built smart sustainable city with very high standards in green building services.</p> <p>The Healthcare sector in Qatar ranks best in the Arab world and within the human development pillar of Qatar National Vision 2030 the country has an ambition to develop a healthy population, physically and mentally. 20% of the budget is spent on Healthcare and Medical tourism set to be one of the major drivers of the country's economic diversification strategy with levels of growth predicted to reach \$12 billion by 2024. The government is committed to investing in state-of-the-art healthcare infrastructures, facilities and technologies as well as developing and upgrading the existing ones. It is uniquely positioned to do so as the country is surrounded by International medical tourism destinations Lebanon, United Arab Emirates and Turkey.</p>

	<p>The country boasts many International medical specialists with high skills sets but these work in disparate practices with variable standards. The government also spends millions of dollars yearly on international medical treatment of its citizens abroad- money that is never recouped.</p> <p>The project calls for a collaboration of Medical practioners, government healthcare agencies, private and public healthcare services to use existing infrastructures to build a powerful healthcare coalition at Mshereib Downtown in the form of Qatar’s own first Holistic concierge medicine service</p>
<p>Developing a Varicella Exposure Work-up Process and Recommendations for an Infection Prevention and Control Program</p>	<p>The aim of this project is to streamline and standardize infection prevention and control (IPC) processes for Varicella exposures in immunocompromised populations. Deliverables include a review of literature, education and relevant materials. Standardizing and operationalizing the exposure work-up process benefits infection prevention and control (IPC) personnel, patients, and providers that are making decisions regarding risk and follow-up for prophylaxis. Streamlining the process helps avert individual and public health consequences of exposure.</p>
<p>Strategic Recommendations for Supporting Individuals with Intellectual and Developmental Disabilities in New York City</p>	<p>In New York City, and nationally, there is a lack of information available pertaining to the Intellectual and Developmentally Disabled community, particularly as it pertains to their needs and experiences in the service delivery system. This project sought to better understand the experiences of individuals in the IDD community, and particularly those of caregivers and providers. Through a mixed-methods approach a series of qualitative focus groups and interviews were conducted, as well as a quantitative survey. Results from this study led to the following three recommendations: 1. Identify and implement additional strategies for capturing IDD characteristics as demographics across survey work, enabling for a more inclusive picture that was previously unavailable; 2. Establish stronger connections with the New York State Office for Persons with Developmental Disabilities; and 3. Ensure that funding considerations be given to those who provide direct service and care to help ensure that aspects like burnout are able to be mitigated and the IDD community allowed to flourish.</p>