

## Practicum Abstracts 2024

Degree: MPH-45

Field of Study: Global Health

Project Title	Project Summary or Abstract
Assessment and Simulation of Provider Payment Methods in Azerbaijan: Testing Proposed Approaches	During my practicum, I assumed a critical role at the Mandatory Health Insurance Agency of Azerbaijan, focusing on enhancing the provider payment mechanism. My responsibilities entailed leading and advising the Agency's technical team in a comprehensive assessment of the existing provider payment methods. This in-depth analysis aimed to identify and address prevalent issues, many of which had contributed to significant cases of fraud, waste, and abuse within the system. Considering the complex nature of these challenges, we adopted a meticulous and analytical approach to thoroughly understand and tackle the nuances of these issues. As a result, we refined the payment processes to enhance efficiency, transparency, and sustainability in the health insurance system, ultimately improving the quality of healthcare services.
Research Thread Curriculum	Involved in developing a research thread curriculum for first and second year veterinary students at Cummings School of Veterinary Medicine - Tufts University.
Save The Children Migration Journey	My practicum project was conducted in partnership with Save the Children US to examine the gaps in physical and mental health support for migrant children throughout their journeys from their country of origin, through Mexico and the United States. The study was completed using a literature review, in-depth interviews, and a thematic qualitative analysis. The major physical health challenges identified through this research are the effects of the migration journey and food insecurity, further exacerbated by specific intersectionalities such as children with disabilities, indigenous children, and Afro-descendants. The gaps identified in mental health care included a lack of access to care due to a limited mental health workforce, a lack of specialized trauma care, insufficient resources for families and children as well as NGOs, and mental health stigma. Common gaps that affect both physical and mental health are a lack of system capacity, limited healthcare access, ineffective information dissemination, language barriers, discrimination, lack of continuity of care throughout the entire migration journey, and the non-prioritization of physical and mental health needs by parents and families. Key policy recommendations included improving cross-NGO and international collaboration, increasing physical and mental health capacity along the migration route, expanding legal pathways

	and improving accessibility for legal services, cultural safety training, and shifting responsibility from fragmented NGOs to local governments.
Simulation Skills Training for Obstetric Emergencies for Midwives	My practicum project, “Simulation Skills Training for Obstetric Emergencies for Midwives” created a pilot simulation skills training program for midwives to practice and learn new techniques for managing obstetric emergencies in Jinja, Uganda. I partnered with Catherine Han, an MPH student in health and social behavior who is an obstetrician to create and execute out pilot simulation skills training program. Our skills together as a midwife and obstetrician enabled us to bring different perspectives to the project and create a project that was well-rounded and met the needs of the community we were working with. We originally were prepared to teach 5 emergencies: postpartum hemorrhage, shoulder dystocia, pre-eclampsia and eclampsia, twins, breech presentation. After arriving in Jinja we adjusted our training to also include neonatal resuscitation per the midwives’ request.
Advancing Health Equity through Health Workforce Expansion	Evaluated policy options to advance equitable access to care for Native American communities. Explored paths for expanding graduate medical education training, specifically related to the needs of Native American rural populations.
THE BURDEN OF CARDIOVASCULAR DISEASE: A FOCUS ON THE GHANAIAI CONTEXT	<p>The study explores the growing burden of cardiovascular disease (CVD) in Ghana within the context of a broader epidemiological landscape shaped by communicable, maternal, neonatal, and nutritional diseases (CMNND). While CMNNDs have seen a decline in Ghana over the past three decades due to targeted interventions, the prevalence of CVDs has been on the rise, exacerbated by risk factors like high BMI unhealthy dietary habits, tobacco and alcohol use, and low physical activity.</p> <p>This shift in disease burden underscores the need for a concerted effort to address non-communicable diseases (NCDs), particularly CVDs without compromising the gains in CMMND. Disability-Adjusted Life Years (DALYs) associated with CVDs have nearly doubled over the same period, signaling a pressing public health concern.</p> <p>To effectively tackle this challenge, targeted interventions are required. These include integrating CVD prevention and management into primary healthcare services, launching consistent health education campaigns, and fostering collaboration across sectors to optimize resources.</p> <p>However, current interventions in Ghana have been fragmented, leading to limited results. A cohesive national response is imperative to curb the rising burden of CVDs. By prioritizing modifiable risk factors and implementing comprehensive strategies, Ghana, and similar low- and middle-income countries can mitigate the impact of CVDs and improve public health outcomes.</p>

<p>understanding of women’s perspectives towards Human papilloma Virus self-sampling the context in Ethiopia cervical cancer screening program.</p>	<p>Cervical cancer, predominantly caused by Human Papillomavirus (HPV) infection, remains a significant public health concern globally, especially in low- and middle-income countries including Ethiopia. Despite being preventable and treatable, cervical cancer continues to pose lives of women’s due to limited access to effective screening methods. HPV self-sampling has emerged as a promising solution to increase screening coverage, yet there is a lack of comprehensive understanding regarding women's perspectives on this initiative, particularly in Ethiopia.</p> <p>This qualitative study designed to address this gap by investigating women's experiences with HPV self-sampling in Adama, Ethiopia. Utilizing phenomenological study design, this research seeks to uncover factors influencing women's perceptions, identify program implementation challenges and facilitators, and assess initiative feasibility across varying literacy levels in the country. Through in-depth interviews, the essence of women's experiences with HPV self-sampling is captured, providing insights into the intricate dynamics of cervical cancer screening in Ethiopia's unique healthcare setting.</p> <p>The study involves women who have participated in the HPV self-sampling program, ensuring a participant-centered program approach. By comprehensively exploring women's perspectives, the research aims to inform program owners, tailor educational initiatives, and address potential misconceptions for optimized implementation. Findings contribute to enhancing the effectiveness of HPV self-sampling initiatives by identifying barriers, leveraging facilitators, and assessing feasibility across diverse literacy levels.</p> <p>Ethical considerations prioritize participant well-being, with informed consent obtained and stringent measures in place to protect confidentiality. The research team, comprising skilled individuals with diverse expertise, ensures rigorous analysis and reflexivity throughout. The study’s findings will be disseminated through community forums, reports to local stakeholders, and academic publications, aiming to inform public health initiatives and contribute to the global understanding of cervical cancer screening methods.</p>
<p>Thematic works in decision science for population health of Mongolia; new insights from GBD 2021</p>	<p>The Healthy Mongolian Initiative workshop, held on January 16th, 2024, convened stakeholders to address Mongolia's critical health challenges through evidence-informed policy making. Organized by the Office of the President of Mongolia and the Center for Health Development, the workshop facilitated discussions among experts, policymakers, and key organizations such as Institute for Health Metrics and Evaluation, World Health Organization, and Harvard T.H. Chan School of Public Health.</p>

	<p>Key highlights included presentations on the Healthy Mongolian National Movement, leveraging insights from the GBD 2021 study, and discussions on health indicators, SDG priorities, and data-driven decision-making in policy formulation. Thematic sessions focused on NCDs, tobacco control, and gender disparities in health, emphasizing evidence-based interventions and multisectoral collaboration.</p> <p>The workshop fostered active participation and knowledge exchange among stakeholders, culminating in actionable strategies to improve population health outcomes. As a significant outcome, the Office of the President of Mongolia plans to issue a Presidential Decree in June 2024, informed by workshop insights, to enhance tobacco control measures, including tax increases and stricter sales regulations.</p> <p>Overall, the workshop provided a platform for collaborative efforts to advance Mongolia's public health agenda, emphasizing the importance of evidence-informed policies and multisectoral partnerships in achieving sustainable health development.</p>
<p>Mitigating Antimicrobial Resistance (AMR) in Nigeria: A One Health Approach through Student Stewardship Network</p>	<p>In collaboration with the National Agency for Food and Drug Administration and Control (NAFDAC-Nigeria) for my practicum, I conducted an extensive investigation into Antimicrobial Resistance (AMR) in Nigeria, aligning with the AMR National Action Plan 1.0. This entailed a thorough literature review to understand Nigeria's AMR landscape, identifying key challenges and opportunities.</p> <p>Attending NAFDAC's two-day Workshop on Antimicrobial Awareness Week (WAAW) provided crucial insights, synthesized into a comprehensive report. This laid the foundation for establishing a One Health Student Stewardship Network across ten Nigerian universities, aiming to empower future healthcare leaders.</p> <p>I established a One Health Student Stewardship Network across multiple universities in Nigeria, targeting healthcare students to empower future leaders in addressing AMR. Through a survey, I gauged the knowledge, attitudes, and practices of students from ten universities regarding AMR. Subsequently, I conducted a four-week training program covering various aspects of AMR, including its global and local implications, stewardship principles, data collection methodologies, and intersectoral collaboration. Following the training, students developed tailored stewardship projects, ranging from patient-focused infographics to social media campaigns, to raise awareness about AMR in their communities.</p>

	<p>I drafted and submitted a report to NAFDAC outlining the student-led projects and advocating for stricter policies on antibiotic sale and distribution in Nigeria. Participating students will also receive certification in AMR training from NAFDAC, enhancing their capacity to address this issue. Through this approach, my practicum project aims to catalyze significant change in combating AMR and promoting stewardship among Nigeria's future healthcare leaders.</p>
<p>Healthcare experience in a homeless population</p>	<p>This is a yearly project that is done to obtain feedback from patients who receive healthcare services from the organization. It is aimed at knowing their challenges in accessing the services in order to make reforms to improve these services. Qualitative data will be obtained from participants via interview questionnaires. This year's research is aimed at assessing the challenges faced by non-English speaking patients in accessing the organization's services.</p> <p>Over the course of my practicum, I collaborated with the Boston Healthcare for the Homeless Program (BHCHP) to conduct an annual quality improvement assessment of primary care services provided to individuals experiencing homelessness in Boston. The project primarily focused on administering patient and volunteer questionnaires to evaluate their respective experiences within the organization.</p> <p>For the patient questionnaire, our goal was to understand the factors affecting patients' access to healthcare services, particularly focusing on non-English speaking patients. We administered surveys at various clinic sites, collecting data on patients' experiences and satisfaction with BHCHP's healthcare services. Additionally, we aimed to identify any barriers that hindered patients from fully utilizing the program's services.</p> <p>Through ongoing data analysis and feedback implementation, the project aims to contribute to the continuous improvement of healthcare delivery to the homeless population in Boston</p>
<p>Perceptions from Peru with Socios en Salud: : Integrated analysis of water security, climate change perceptions, and maternal child health in Lima, Peru: Qualitative and Quantitative Insights.</p>	<p>The link between climate change and water insecurity in Peru is a significant concern due to the country's vulnerability to climate change. Vulnerable populations are often most susceptible to these stressors. The lack of access to safe water in Carabayllo, Lima, Peru seems to have implications for maternal and child health. The diverse landscape of Peru, including rapidly expanding urban populations and remote regions with no access to piped or treated drinking water, poses significant challenges to water access. Socios En Salud conducted a qualitative study to explore community perspectives of water insecurity and its impact on the health of children and pregnant women.</p>

	<p>Another study assessing the relationship between access to water and maternal and child health was carried out in Carabayllo, Lima, Peru. The practicum consisted of assisting the SES team in drafting a research article manuscript and preparing an infographic for dissemination of the results of these to the team and the community. It also involved assisting the team in quantitative data analysis of factors associated with water insecurity in Carabayllo, Lima, Peru.</p>
<p>Providing physical and mental health support for children migrating through Latin America</p>	<p>Moreover, children face mental health challenges such as trauma, anxiety, depression, and post-traumatic stress disorder, stemming from the adversities of migration and systemic failures in providing accessible, culturally-sensitive mental health support. The research identifies crucial gaps in healthcare provision, including limited healthcare access, a scarcity of specialized trauma care, systemic discrimination, and a lack of continuity of care.</p> <p>Conclusion: The study underscores the critical need for transnational collaboration, investment in health systems, improvement in accessibility, and cultural safety training to enhance the physical and mental well-being of migrant children. Prioritizing these children's healthcare needs through policy reforms and resource allocation is essential for safeguarding their rights and fostering their potential for resilience and recovery.</p>
<p>WHO-UN Political Declaration Development</p>	<p>My practicum with the World Health Organization (WHO) had three major components: negotiations, research, and implementation. I worked with the WHO to develop the UN Political Declaration on Universal Health Coverage, UN Political Declaration on Pandemic, Prevention, Preparedness and Response, and the UN Political Declaration on The Fight Against Tuberculosis. A major part of my practicum involved assisting with the negotiation process for the UN Political Declarations. This involved coordinating meetings with all UN Member States and reviewing the drafts of the Political Declarations. My role mainly consisted of noting the positions each UN Member State had on the Political Declarations and assisting with the drafting of revised versions. This was a rewarding process that lasted many months and ultimately resulted in all UN Member States endorsing the Political Declarations during UNGA. Throughout the development of the UN Political Declarations, I also assisted with researching and reviewing prior international health declarations. This information was used to inform the direction of the policy as well as offer insight into what milestones had yet to be reached. I also provided research on country-level programs aimed at achieving universal health coverage for their people. During the United Nations General Assembly (UNGA), I worked directly alongside the Director-General of the WHO in his strategic meetings with various Presidents, Prime Ministers, and Ministers of Health. For these meetings, my main responsibilities were to prepare an implementation strategy briefing before the meeting and then summarize outcomes after the</p>

	<p>meeting. This was an informative process that allowed for me to engage with implementation decision-making at the international level.</p>
<p>Advancing Tick-Borne Encephalitis Vaccination Policies</p>	<p>During my practicum, I returned to Stockholm and collaborated with Folkhälsomyndigheten, the Swedish Public Health Agency, to address the escalating challenge of tick-borne encephalitis virus (TBEV) in Europe. My tasks involved collecting data on the incidence of TBEV in various regions over the past decade, as well as evaluating rates of hospitalization and sick leave associated with the virus. Additionally, I examined data on vaccine efficacy and vaccination coverage.</p> <p>Through cost-benefit analysis, I compared the expenses related to hospitalization and sick leave with the number needed to vaccinate. This allowed me to identify regions with high TBEV incidence rates, highlighting the importance of implementing proactive vaccination strategies. By informing targeted vaccination initiatives based on regional incidence rates, we aimed to mitigate the impact of TBEV.</p> <p>This experience significantly enhanced my skills in data analysis, policy advocacy, and interdisciplinary collaboration within the field of public health. It also underscored the importance of proactive measures in addressing emerging health threats.</p>
<p>Enhancing Cancer Surgery Through Policy Reform: A Structured Review of Health Policies in Sub-Saharan Africa</p>	<p>In Sub-Saharan Africa (SSA), the rapid increase in cancer incidence poses a significant challenge to health systems already under strain. Surgical care, is critical for approximately 65% of cancer control or cure. Despite recognition of cancer as public health priority, the alignment of health policies to support cancer surgery remains a challenge. This practicum appraised the consistency, comprehensiveness, and coherence of national health policies' prioritization of cancer surgery in SSA.</p> <p>The study utilized a novel mixed-method approach combining quantitative and thematic analyses with NVivo and Microsoft Excel. The analysis focused on national health strategic plans (NHSPs), cancer control plans (CCPs), and national surgical plans (NSPs) across seven African countries that had all 3. A total of 1998 text-containing pages were reviewed. CCPs had 91.44% (n=3784; med=561.0; IQR=596.75) of cancer citations with a statistically significant variance between policies (<math>F(2)=14.01</math>; p</p>
<p>Exploring Health Conditions and Protection Strategies for Vulnerable Populations Living on the Streets, Migrants, and Key</p>	<p>Our practicum with Namanyae Khobragade's practicum project, titled "Exploring Health Conditions and Protection Strategies for Vulnerable Populations Living on the Streets, including Migrants and Key Groups at the Border of Guatemala-Mexico and in the Historic Center of Mexico City," seeks to address the critical public health needs of homeless individuals and migrants. This project is part of their Master of Public Health degrees at the</p>

<p>Groups in the border Guatemala-Mexico and in the historic center of Mexico City.</p>	<p>Harvard Chan School of Public Health. The project employs ethnographic research and advanced geospatial techniques to enhance healthcare access for these populations. The project tackles a pressing need in public health by fostering collaboration among stakeholders and implementing targeted health interventions. Despite facing challenges such as stakeholder participation, digital literacy barriers, logistical complexities, and financial constraints, Alberto and Namanyae have successfully begun integrating strategies arising from their lessons learned within the existing health system. The outcomes of this practicum are significant in advancing the public health field, especially in addressing disparities among the most vulnerable. Their work exemplifies the core values of innovation, community participation, and commitment to public health. Through our practicum, we have demonstrated exceptional capabilities in evaluating and applying research methods, designing global health interventions, proposing relevant public health policies, and understanding the ethical dimensions of public health challenges. Our initiative promises to inform and improve practices for enhancing health service accessibility and outcomes for vulnerable groups, making it a beacon of good practice in health and migration in the Americas.</p>
<p>Cashew Nut Consumption and Inflammatory Markers among Diabetics in India</p>	<p>My practicum was centered on analyzing the results from a randomized controlled trial (RCT) in Chennai, India, in which 500 individuals with diabetes were provided with daily cashew nut supplementation for 12 weeks. The primary goal of the RCT was to assess changes in cardiometabolic parameters (i.e. cholesterol levels, blood pressure, blood sugar, body mass index, etc.). However, as a secondary goal, the study also measured pre- and post-intervention inflammatory markers, namely, adiponectin and TNF-alpha. These inflammatory markers have been implicated in exacerbating the negative health effects of a variety of chronic disease including cardiovascular disease, hypertension, type 2 diabetes (T2DM), and certain cancers. Accordingly, my role in this project was to analyze and write up the results from the secondary analysis studying the association between cashew nut consumption and inflammatory markers.</p>
<p>Exploring Health Conditions and Strategies for Vulnerable Populations Living on the Streets, Migrants, and Key Groups in the border Guatemala-Mexico and in the historic center of Mexico City</p>	<p>This study aims to increase service accessibility for Mexico City's immigrants and homeless and enhance its basis with solid ethnographic research. It focuses on qualitative analysis and geospatial techniques to understand and address the challenges these groups face. Geospatial mapping highlights service location disparities, aiding in identifying and addressing gaps in access, awareness, and service utilization. The study seeks to improve the connection between service providers and beneficiaries, using insights to illuminate the motivations and barriers to volunteer participation, thus offering a comprehensive view of service provision dynamics.</p>



	<p>The goals include developing strategies to address service gaps and establishing inclusive, equitable policies reflecting real-world conditions. These efforts aim to bridge gaps in both physical access and service awareness, fostering a supportive community network critical for improving urban service delivery.</p> <p>This project extends beyond data collection, serving as a call to action for policymakers, community leaders, and volunteers to unite against urban marginalization. By highlighting service provision's locational and participatory aspects, it seeks to foster a stronger collaboration between service providers and volunteers, enhancing their impact. This contributes to a larger vision of creating an inclusive society where everyone has access to essential services, promoting equality and support for all, regardless of their background.</p>
<p>WHO Young infant infection reviews</p>	<p>The World Health Organization (WHO) plays a crucial role in developing and disseminating clinical guidelines. To create these guidelines, WHO sets up a Guideline Development Group (GDG) consisting of external experts and stakeholders from each of its six regions. As my practicum, I was involved in the process of updating the guidelines for managing infections in young infants aged up to 2 months. I was part of the external research team at the Global AIM Lab, which is located at the Brigham and Women's Hospital. Our primary role was to review the current evidence and present it to the GDG to help with the decision-making process. The Global AIM Lab's research aims to improve the health and survival of mothers and infants, especially in resource-limited settings.</p> <p>The results of the systematic review and meta-analysis of evidence conducted by our lab will be published in a peer-reviewed journal. I was personally grateful to witness the process of this comprehensive systematic review and the WHO GDG procedure.</p>
<p>Enhancing Healthcare Access for the Homeless: An Evaluation of Service Delivery and Patient Experience at BHCHP</p>	<p>Homelessness, a critical public health issue, affects both unsheltered and sheltered individuals, with recent data showing a significant increase in both groups, especially in urban centers like Boston. This escalation highlights the critical need for tailored healthcare services that address the unique barriers faced by this population.</p> <p>The Boston Health Care for the Homeless Program (BHCHP) stands as a pivotal institution in this context, dedicated to providing comprehensive, high-quality healthcare to individuals and families experiencing homelessness. BHCHP's mission is underscored by its commitment</p>

	<p>to equitable and dignified healthcare access, mobilizing a robust team of over 600 professionals across various disciplines to serve the homeless community in Boston and beyond.</p> <p>My practicum project centered on the administration of an annual patient experience and satisfaction survey, conducted from January to April 2024 across three main clinic sites of BHCHP. This survey aims to gather insights into the factors influencing service accessibility, particularly for non-English speaking patients, thereby informing quality improvement initiatives and federal reporting requirements.</p> <p>In my role, I was responsible for the survey's deployment, including obtaining informed consent, conducting face-to-face questionnaires, and ensuring the confidentiality and integrity of the data collected. Additionally, I analyzed patient survey data and developed a new survey evaluating volunteer satisfaction, contributing further to the program's enhancement efforts.</p> <p>Through this project, I engaged directly with the challenges and opportunities in delivering effective healthcare to a vulnerable population, providing actionable data to support BHCHP's continuous commitment to service excellence and patient-centered care.</p>
<p>Development of Global Resource-Adapted Pediatric Oncology Guideline Application</p>	<p>The Global Initiative for Childhood Cancer (GICC), launched by the World Health Organization (WHO) in 2018, aims to reach a 60% global survival rate for children with cancer by 2030. If achieved, this would double the current statistics, which for low- and middle- income countries (LMICs) trail far behind the 80% survival rate in resource-replete settings. To assist the GICC mission, St. Jude Children's Research Hospital and its established partners have initiated development of the Adapted Resource Implementation Application (ARIA), a clinical tool addressing the need for a comprehensive, accessible resource to guide treatment of childhood cancer. The project's framework organizes the roles of hundreds of contributive experts into a chronological four-phased process of strategy design, consensus, validation, and dissemination. Contributors operate in three categories of community engagement,</p>

	<p>guideline development procedures, and guideline analysis and revision throughout all four phases. The aim of ARIA is to create a resource-stratified, evidence-based guideline adapted to accommodate diverse setting capabilities, to provide healthcare professionals around the world the necessary information to safely diagnose, treat, manage, palliate, and surveil pediatric malignancy wherever they practice.</p>
<p>Perceptions, Facilitators and Barriers to the Uptake of a Community-Based Non-Communicable Disease (NCD) Intervention in Ghana</p>	<p>The study conducted across HADA Hub sites within the OFIS initiative uncovered essential facilitators and barriers to implementing health interventions. Interactions with healthcare professionals, positive peer influence for medication adherence and healthier behaviors, and proximity to community screening services were identified as facilitators. However, barriers like fear of stigmatization, work-related stress, interpersonal conflicts with health representatives, financial constraints for healthy eating, and fatalistic attitudes towards health improvement emerged. Community leaders and peer educators reported improved health behaviors but expressed concerns about inadequate volunteer training, member reluctance to share medical information, misconceptions about healthcare, insufficient educational materials, and financial constraints. Addressing these barriers is crucial for effective health intervention implementation, emphasizing the importance of community engagement, effective communication, and systemic support to overcome challenges and promote healthier lifestyles.</p>
<p>Developing a Conceptual Framework for Community Engagement</p>	<p>My practicum comprised of assisting the Community Benefits Office (CBO) at Dana-Farber Cancer Institute explore options for conceptual models reflecting equity and theories of change for impactful, evidence-based outreach and strong community presence. It included developing one framework that encompassed all cancer care programs carried out by the CBO and a one-page description of Community Benefits services that aligns with selected models and anchor institutions.</p>
<p>Psychiatric Hospitalization and Adverse Birth Outcomes in Brazil</p>	<p>I did my practicum at the “Mental Health For All Lab” which is based at the Department of Global Health and Social Medicine of Harvard Medical School, a historic contributor to the emergence and development of the discipline of global mental health. I was working in the maternal mental health team and was involved in a project trying to better understand how psychiatric hospitalization is related to adverse birth outcomes among low- and middle-</p>

	<p>income women in Brazil. My tasks included helping to understand the mechanisms of the association. I was involved in the writing of a scientific manuscript about maternal mental health based on the 100 million cohort, a large dataset with high quality social and health information of low-income individuals in Brazil. The work at the lab happens at the intersection between research and practice, promoting the generation of knowledge and its effective utilization with the goal of contributing to the reduction of the global burden of suffering of mental health problems. In this way, it offered me a fantastic the opportunity to work in the field of academic Global Mental Health with our research findings informing policy recommendations.</p>
<p>Creating Genetic Outpatient Patient Education Materials and Zambia Support Program</p>	<p>I conducted two major projects. The first one is the creation of a patient education tool in a genetic outpatient clinic. At Keio University School of Medicine, the establishment of the HBOC Center in 2021 aimed to expand testing and treatment for Hereditary Breast and Ovarian Cancer Syndrome, strengthening collaboration among various medical departments and healthcare professionals. However, as the center was newly established, its operation was not yet fully established. Particularly, it was noted that patients with hereditary tumors or those potentially at risk, along with their families, faced difficulties in understanding the complexity of their condition during outpatient visits, requiring repeated explanations and resulting in inefficiencies. Therefore, to provide patients with basic knowledge before their visits, the creation of a patient education tool was initiated. This involved sharing information through PowerPoint presentations, sharing videos on hereditary tumors at outpatient booths, creating a website, and organizing public lectures.</p> <p>The second project is the Nsansa Village Project, a shelter for street children in Zambia. Every year, activities such as workshops, health check-ups, and initiatives for the well-being of the children were conducted during visits to the shelter. Consequently, meetings were conducted online with local stakeholders to reflect on past activities and discuss plans. A total of four meetings were held, along with the preparation of a report for the 2023 visit and conducting one online and two on-site activity report meetings.</p>
<p>exploring factors affecting Radiation therapy in Egypt</p>	<p>Introduction</p>

	<p>In Egypt, cancer is a significant and escalating public health challenge. In 2019, 324,949 patients with malignant neoplasms were being treated in Egypt at the states' expense. Despite having around one quarter of the radiation therapy machines in Africa, there is a massive gap in terms of access and distribution of radiation services and questionable quality of the available machines.</p> <p><b>Purpose</b> This study aims to delve into the experiences and challenges faced by physicians, supporting staff, and patients in Alexandria's radiation oncology departments, a representative of the healthcare system in Egypt. The insights gained will be instrumental in shaping interventions and policies that enhance the quality of cancer care and the well-being of patients and healthcare providers alike, with implications that resonate beyond the local context.</p> <p><b>Methods</b> A qualitative design, engaging in-depth interviews with a purposive sample of 10 physicians, 5 physicists, and 20 patients were selected to participate in semi-structured interviews. Subjects were randomly selected to represent four out of the five centers that provide radiation therapy in Alexandria. The qualitative responses were explored thematically using Nvivo software by two different researchers.</p>
<p>Automated unit and program cost estimation for UHC benefits package design</p>	<p>I was involved in a project to reform the state guaranteed benefits package of the Kyrgyz mandatory health insurance. This scheme provides fully subsidized health services to all who hold MHIF insurance. The range of services covered is described in the insurance policy, but is not detailed enough for the enrolled to understand well enough which services are covered, leading to financial and coverage issues.</p> <p>To improve this situation, the MHIF and Ministry of Health invited a team of advisors to design and support a process of insurance policy reform. This process involved various steps: goal setting, service definition, prioritizing services according to decision criteria, and gathering information to present best estimates of these decision criteria.</p> <p>My personal responsibility was the design of a cost generating model that could adapt to the availability of detailed or more general costing information on various inputs (staff, drugs,</p>

	<p>tests, overhead, consumables). I made this model for a specific taxonomy of health services called the UHC Compendium, soon to be released by the WHO.</p> <p>I trained the Kyrgyz MHIF and MoH staff on the functioning of the tool, and how they may interact with the model to produce estimates of their own, as well as generate different policy scenarios to present to the Steering Committee. The training was conducted in-person in Bishkek in mid-October 2023, and the input validation, cost estimation in the period thereafter.</p>
<p>A mixed method analysis of the perspective of mothers facing water and food insecurity in Maras, Perú</p>	<p>Latin America faces a severe health crisis, with over 150 million people lacking reliable access to water due to climate change. This crisis threatens not only water and food security but also human health and economic stability.</p> <p>My practicum project was a collaboration with Socios en Salud (Partners in Health in Peru). Socios en Salud conducted a pilot study to understand community perspectives on access to water and its impact on the health of pregnant women and children aged 0 to 10 years in a rural high mountain community in the Maras district, Cusco.</p> <p>This project utilized a mixed-methods approach. Researchers interviewed 22 mothers about their personal experiences with water insecurity and surveyed a larger cohort of 100 women on their experiences combating climate change, their food and water insecurity levels, and their health outcomes. Common themes emerged: mental health stresses due to water anxiety, agricultural decline impacting economic livelihood, and decreased hygiene and sanitation practices. We looked at the combined variable of food and water insecurity and resulting health outcomes and discovered that both food and water insecurity was significantly associated with an increased risk of maternal anxiety and childhood diarrhea. By understanding the multifaceted challenges faced by these communities in the crisis of water insecurity, we can explore solutions and advocate for proactive measures to help these vulnerable populations address the growing threat of climate change.</p>
<p>TB Strategy Development</p>	<p>This practicum centers on developing tuberculosis (TB) treatment strategies through collaboration with community health workers and their integration within local health systems, aiming for widespread access. An in-depth literature review was carried out to find effective practices from various settings, especially those with limited resources, and to</p>

	<p>understand the standards for TB treatment and its execution. Additionally, the research sought out instances where community health workers are active in prevention, diagnosis, follow-up, and management of TB, to gather actionable lessons. Combined with local health community costing models, this research helped shape practical TB roadmap plans that cater to the unique needs of the local catchment areas and outline clear steps for TB care delivery.</p>
<p>World Bank - Building NCD-Ready Systems and Societies through Primary Health Care</p>	<p>Three of every four deaths worldwide are attributable to NCDs. Burden of NCDs has escalated dramatically in LMICs in recent years. Management of NCDs, particularly within primary care, is an increasingly common theme within health system strengthening projects of the World Bank. The World Bank's Health Nutrition and Population Global Unit was working on generating a book which outlined the current situation of NCD care, and generated a set of evidence-based framework to guide country teams' work on NCDs and mental health along with country examples.</p>
<p>Interventional Radiology Capacity Building in Kampala, Uganda</p>	<p>Interventional Radiology (IR) has emerged as the standard of care for numerous medical conditions in high-income countries, yet its availability remains scarce in low- and middle-income countries (LMICs). Road2IR, an organization committed to advancing healthcare access, seeks to establish a self-sustaining IR training program in Uganda. A major public health issue in Uganda is the lack of access to IR services, hindering timely diagnosis and minimally invasive treatment of various medical conditions, including communicable diseases, cancer and vascular diseases. Mulago Hospital in Kampala has existing radiology facilities and infrastructure that can be optimized to support IR services, reducing the need for extensive new construction. Uganda has allocated 44% of their UNDP budget to accelerating structural transformations, providing a conducive environment for addressing this issue. I will be working with Road2IR under the direct supervision of an attending radiologist at Mulago University Hospital (and Uganda's first IR fellow) to develop and implement a comprehensive and context-specific IR training curriculum beginning with CT guided biopsy procedures. We aim to formalize this training program, working closely with the Ugandan Ministry of Health to facilitate the curriculum review and secure official approval. We will initiate the training program by focusing on image-guided biopsies. Throughout my project's 4 week duration and beyond, we will continuously assess its impact</p>

	<p>on the community. Key deliverables include a fully developed and locally relevant IR training curriculum and collaboration with the Ministry of Health to ensure alignment with national healthcare priorities and Uganda’s specific Sustainable Development Goals (SDGs).</p>
<p>Strategies for building Primary Health Care (PHC) Based Integrated Delivery Systems (IDS) in developing nations</p>	<p>Health service fragmentation is a pervasive issue in healthcare systems globally, leading to disjointed care, inefficiencies, and compromised patient outcomes. Integrated Delivery Systems (IDSs) offer a solution by coordinating care across settings and providers. IDSs emphasize vertical integration, clinical coordination, financial alignment, and population health management, potentially improving care quality, patient experience, and cost-effectiveness.</p> <p>However, IDS implementation faces challenges such as privacy concerns, competition dynamics, quality standardization, and uncertain cost savings. The choice between tertiary hospital-centric and Primary Health Care (PHC)-based IDSs presents a policy dilemma, with PHC-based systems gaining traction due to their focus on preventive care, community-level services, and improved accessibility.</p> <p>Global movements, like the World Health Organization's advocacy for PHC-centric systems, support this shift. Case studies of effective PHC-based IDSs in Singapore and Intermountain Health in the US demonstrate successful models that prioritize preventive strategies, community engagement, and technology integration.</p> <p>Building PHC-based IDSs in developing countries like India and China requires tailored approaches to address population changes and healthcare needs effectively. These systems can improve health outcomes, reduce costs, enhance equity, and promote wellness, aligning with broader global health goals of achieving universal health coverage and sustainable healthcare delivery.</p>
<p>Adaptation and validation of an HIV disclosure scale in Uganda.</p>	<p>Adaptation and validation of an HIV disclosure scale in Uganda, is a project under Global Health Research Collaboration between Massachusetts General Hospital, Mbarara University</p>



	<p>of Science and Technology (MUST) and Mbarara Regional Referral Hospital (MRRH), in Uganda.</p> <p>The research site is embedded within the Immunosuppressed Syndrome Clinic at MUST and MRRH in Mbarara, Uganda. The clinic cares for 12,000 active patients living with HIV, with approximately 1,000 patients initiating ART each year (45% adult men).</p>
<p>Healthcare experience in a homeless population</p>	<p>This literature review addresses the complexities of unsheltered homelessness, comparing national trends and exploring local impacts. Cross-country comparisons are hindered by variations in definitions and measurement methods, with some countries including only unsheltered individuals while others adopt broader definitions encompassing precariously housed individuals. Notably, countries with more inclusive definitions tend to report higher incidences of homelessness.</p> <p>Recent years have seen a surge in unsheltered homelessness globally, particularly in urban areas. In the United States, the Department of Housing and Urban Development defines homelessness as lacking stable nighttime residence, and statistics reveal a consistent upward trend over the past decade. This increase poses significant health risks due to exposure to violence, adverse weather conditions, and inadequate sanitation.</p> <p>In 2023, the U.S. experienced its highest record of homelessness since 2007, with substantial geographic disparities, especially in Western U.S. States like New York, Vermont, Oregon, and California reporting high rates, with the District of Columbia showing a striking concentration. Massachusetts saw a record 11 percent surge in homelessness between 2022 and 2023, predominantly among families with children, attributing causes to housing affordability crises and an influx of migrant families.</p> <p>To address the health needs of homeless individuals, programs like the Boston Health Care for the Homeless Program (BHCHP) provide crucial services, including a 24/7 respite program. BHCHP conducts annual surveys to assess patient experiences and satisfaction, informing quality improvement initiatives. The study highlights challenges in survey</p>

	<p>administration, particularly for non-English speaking patients, suggesting the need for more multilingual administrators and adapted survey tools.</p> <p>The findings underscore the importance of inclusive data collection methods and patient involvement in refining survey tools to accurately capture the dynamic experiences of homeless populations and inform targeted interventions.</p>
<p>Evaluating Malaria Control Programs in Indigenous Communities in the Amazon</p>	<p>This practicum project aimed to enhance malaria control strategies in Amazonas State, Brazil, with a focus on indigenous populations who are disproportionately affected by the disease. The primary objective was to evaluate existing malaria control measures and propose a novel partnership model that enhances the effectiveness and sustainability of these interventions. Malaria poses a significant health threat in Amazonas, particularly among indigenous communities due to unique socio-economic and environmental factors that facilitate the spread of the disease.</p> <p>The practicum consisted of two main components: the development of a partnership agreement protocol and a feasibility assessment for malaria elimination. The partnership protocol was designed to foster collaboration between the Amazonas Health Surveillance Foundation (FVS) and Special Indigenous Health Districts (DSEIs). This protocol aimed to improve logistics, vector control, diagnostics, and data systems, ensuring that actions are implemented in a timely and efficient manner. The proposal highlighted the need for integrated efforts across different levels of government to adapt interventions to the local context of indigenous communities.</p> <p>Additionally, the practicum involved a detailed feasibility assessment of the prospects for malaria elimination in the region by 2040. This assessment critically analyzed current strategies and identified necessary innovations in diagnostics and treatment, emphasizing the importance of culturally sensitive approaches and community engagement. The findings suggest that achieving malaria elimination in Amazonas will require substantial investments</p>

	<p>in healthcare infrastructure and multisectoral partnerships to address environmental and social determinants of health.</p> <p>Overall, this practicum provided actionable insights and a strategic framework that could guide future malaria control and elimination efforts in Amazonas State, potentially serving as a model for similar contexts globally.</p>
<p>Bridging Knowledge and Practice in Global Health: My Journey at GHELI</p>	<p>The practicum at the Global Health Education and Learning Incubator (GHELI) at Harvard University encompassed a period of concentrated development in understanding and addressing global health challenges. The focus was on developing educational materials for health systems courses and applying decision science to evaluate cost-effectiveness in healthcare. The work included tackling complexities surrounding health system and Universal Health Coverage (UHC) and its diverse application across nations, raising philosophical considerations about the role of countries in global health.</p> <p>A key initiative was the planning for the translation of essential public health courses into multiple languages, aiming to widen access and foster comprehension globally. This aspect highlighted a commitment to educational equity and knowledge sharing.</p> <p>Throughout the practicum, a deeper appreciation for the diversity of health systems, the need for practical public health approaches, and cultural sensitivity in policy formation were cultivated. These experiences enhanced competencies in objective analysis and critical thinking, solidifying a foundation for future endeavors in global health with a strong inclination towards equitable and adaptable health solutions.</p>
<p>Family Visiting Workforce Analysis</p>	<p>Use workforce data to identify how staffing patterns impact family outcomes. Work with RIDOH team to analyze current workforce data and turnover rates at Local Implementing Agencies; identify staff characteristics that impact turnover. Analyze how professional development and professional certifications impact staff retention.</p>

<p>Promoting Equity in Perinatal Care: Analyzing Demographic Changes to Provide Targeted Resources to Enhance Community Well-Being</p>	<p>Introduction: Racial disparities in maternal morbidity and mortality have been persistent in the US; however, these disparities were exacerbated by the COVID-19 pandemic. This research focused on a Quality Improvement project to analyze demographic shifts such as race, ethnicity, and language among perinatal individuals who gave birth at UMass Memorial Medical Center (UMMMC) in Worcester from 2018 to 2023. The goal was to identify targeted maternal resources to improve maternal morbidity and mortality. Furthermore, Worcester was a significant geographical focus for the study because it is the second-largest city in Massachusetts, and UMMC welcomes an average of 4,500 – 5,280 babies annually.</p> <p>Methods: Race, ethnicity, and language data from 2018-2023 were extracted from EPIC. The data was analyzed in STATA by constructing distribution tables to understand the changes in demographics through delivery percentages.</p> <p>Results: The data analysis revealed a significant decrease in the delivery percentages of White individuals and significant increases in Hispanics, Asians, and Other/Multi-race individuals. In light of these findings, the research proposed a doula program as an evidence-based resource for promoting maternal and infant health equity. Doulas, as non-clinicians, play a crucial role in supporting perinatal individuals, and their benefits include lower cesarean rates, decreased pre-term birth, and increased breastfeeding initiation. The data also showed that 18.95% of perinatal individuals who delivered in 2023 needed interpreter services, underscoring the importance of language accessibility in all doula communication.</p> <p>Conclusion: The Doula program is a practical, evidence-based resource to improve maternal health and infant health equity.</p>
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