

MPH Field Experience Grants

2018 REPORT



Photo Credit: Biswas Pradhan, MPH '19 Village of Jharlang (estimated population of 3000 to 5000 people).

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH

MPH Field Experience Fund Award Recipients – 2018-2019
Johns Hopkins Bloomberg School of Public Health

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Location: Ghana

Enoch Abbey

Retrospective Review of In-Hospital Mortality and the Predictive Ability of Early Warning Scores in Patients (Field Research)

Academic Advisor: Maureen Cadorette

Johns Hopkins Faculty Affiliate: Promise Ariyo

Field Counterpart: Samara Soghoian

Location: Ghana

Background

Critical illness is a leading cause of morbidity and mortality in Ghana and Sub-Saharan Africa.¹

Identifying patients with the highest risk of death could help with scaling-up the level of care, resource allocation and clinical decision making. The modified early warning score (MEWS) is an objective ‘tracking and trigger’ score for monitoring in-patients, that uses routine physiological vital signs measured from a patient and summing it up into a scoring chart. The objective of this study is to evaluate routine vital signs monitoring using the MEWS and to validate its sensitivity in recognizing clinical deterioration in In-hospital patients to necessitate appropriate and timely intervention. In recent times healthcare workers in Ghana have come under intense scrutiny/ criticism in both traditional and social media about the passivity with which care in some instances are carried out for ill patients and in some instances failure to recognize deteriorating patients.



This study was thus carried out in the country's largest hospital, the Korle-Bu Teaching Hospital located in Accra, specifically among medical inpatients.

I, in collaboration with Johns Hopkins faculty mentors (Drs. Promise Ariyo and Maureen Cadorette) and Dr. Sari Soghoian of the Korle-Bu Teaching Hospital decided this was a great opportunity to investigate how best we can impact patient care, considering similar work was also being done in our neighboring country Nigeria. This study will help identify opportunities for improvement in in-patient care, some of the lapses in care and how best we can improve care in an

affordable, simple, non-sophisticated and practical way. A total of 110 case notes of patients who had been on admission were to be reviewed for this study.

Activities in Ghana

I arrived in Ghana on the 2nd of January and was there for 2 weeks. The purpose of this trip was to carry out data collection, communicate the preliminary findings, work with all cadre of staff and interprofessional teams, and assess needs and capacities required for holistic in-patient care.

Though fronted with a couple of challenges, I learned invaluable lessons. I struggled to dive straight into the research work because of delays in securing Ethical and Technical committee approval (IRB equivalent) to proceed with my work. My preceptor came up with an idea of carrying out a separate study for the Accident and Emergency Department of the Hospital which will help me buy time while I waited for the formal approval of my research proposal. This was granted approval from the Departmental Head considering I was a staff on study leave. My assumed task was to determine the mortality trend in a newly reconstituted department (Accident and Emergency) from the initiation of its merger to the date of my research. These departments were previously separate departments, namely;

The Accident and Trauma Center and the Surgical and Medical Emergency departments.

I successfully carried out this daunting task single-handedly of going through several folders, Mortality Books, Admission Books and Records of over 3000 patients for the period spanning 1st August to 31st December 2018. The findings were presented to the staff of the department in a clinical meeting on the 16th of January 2019. Mortality review indicated that about 62% of the in-unit mortalities occurred within the first 24 hours of admission, which may indicate relevance of the proposed study for emergency department workflow, since it implies indirectly the successes of emergency room resuscitation. I had several formal and informal interviews with other allied staff on mortalities in the unit and the merger that had taken place.

Though depressing, I failed to secure the IRB approval while present in Ghana (temporary approval granted after I left) and anticipate that final approval will be forthcoming in time to complete the study by the end of the academic year. The field experience gave me an in-depth view of the research limitations in the facility and how extremely well-planned ideas can be derailed.

While there during the night shifts, I occasionally helped with some of the clinical work when the staffs were overwhelmed.

Lessons Learnt

I was able to collect data and analyze the data collected, though not extensively but to make sense of the Mortality trend in the new department, bringing to bear my quantitative skills in epidemiology and biostatistics. I will add that manual record keeping was a challenge and encourage the use of electronic record keeping.

Having had a look at the available data, another important lesson is about data quality, considering 14% of data was missing in the unit records on timing of mortality for example, which was needed for the study (31% of patient folders were not available to corroborate with records). Findings from any such retrospective study would be limited given the high proportion of missing data.

From the formal and informal in-person interviews carried out, I had a fair overview of the needs and challenges especially from nursing staff in caring for hospitalized patients.

Plans and ideas do not always play out as expected, adequate planning and mock-simulations may be necessary especially in resource-limited settings where challenges can be difficult to get around.

References

1. Hazard R, Saulters KJ, Ainsworth J, et al. Derivation and validation of a universal vital assessment (UVA) score: A tool for predicting mortality in adult hospitalized patients in sub-Saharan Africa. *BMJ Global Health*. 2017;2(2):e000344. <http://dx.doi.org/10.1136/bmjgh-2017-000344>. doi: 10.1136/bmjgh-2017-000344.

Rosemary Acosta Wright

Analyzing Water Conditions and Educating Families on Zika and Dengue Disease Transmission Prevention in El Chacuey, Dominican Republic (Service-Oriented)

Academic Advisor: Elli Leontsini

Johns Hopkins Faculty Affiliate: Elli Leontsini

Field Counterpart: Gary Strandemo

Location: Dominican Republic

El Chacuey is a small rural community of around 400 individuals located in the province of Dajabon in the northwest of Dominican Republic. The community relies on rivers for water, however the lack of rain prevents these water sources from filling up, inhibiting families from performing basic functions such as bathing, cleaning, and cooking. Building a new and improved water system has been a priority for the community for many years, however the reason for the delay in the process is lack of funds and technical assistance. The Saint Cloud Rotary Club, which previously built a water system in a neighboring community, has planned to build a new water system in El Chacuey.

Before commencing the project, the Saint Club Rotary Club asked me to conduct a needs assessment to determine the community's unmet water needs, current water usage, and plans to maintain a future water system. I created a survey tailored towards individuals living in El Chacuey (Appendix A) and visited 73 out of 132 households. I mostly spoke to women (77%) who were Dominican (97%) as the men and Haitians were out in the field working during the day.



These families earned wages as dairy farmer, tobacco producer, barber, bodega owner, teacher, nurse, among others. 11% of survey takers mentioned they received water less than two days a week. 58% of households stored water in large tanks during periods of low water flow. 40% of survey takers did not cover their water tanks, increasing their risk of Zika, dengue, and other mosquito borne viruses. Although nobody in the community had been diagnosed with the Zika virus, 36% and 2% of community members have been diagnosed with Chikungunya and Dengue, respectively.

On January 5, 2019, I trained 16 individuals (10 men and 6 women) on water system project management to create a sustainable Water Committee (Appendix B). The goal of the meeting was to increase the number of Water Committee members who have improved their knowledge on project management and financial budgeting. In addition, I wanted the committee to develop specific goals and objectives for themselves as well as for the team. During the course of the training, it was obvious that the participants were enjoying the sessions and were keen on using their newly gained skills towards fulfilling their responsibilities of maintaining the future water supply system. The committee vowed to collect a tariff from the community and use this money for any future repairs.

The following day on January 6, 2019 several Water Committee members facilitated a community meeting to make the community fully aware of all aspects of the water supply system project (Appendix C). The Water Committee began with a summary of the January 5 meeting. This was followed by a detailed description of the project from the president of the Dajabon Rotary Club. He emphasized the importance of community engagement throughout the implementation of the project. The owner of the BioArena sand filters spoke next and explained the importance and benefits of having household filters for clean and drinkable water. It was apparent that the community members relied heavily on the community leaders and Angel Tejada, the community mayor, did a wonderful job making individuals excited about this project.



My assessment of the community made it clear that the families in El Chacuey and El Candelon have poor access to water supply, poor water resource management, and an increased risk of contracting mosquito borne viruses. Using the communities' strengths and assets, the Rotary Club should build a large water tank on communal property for water storage, create a well for more water accessibility, and place solar panels for more energy availability to pump water from the well. This new water supply system will allow families to do basic domestic activities without worrying about running out of water and will increase their health status by reducing the risk of water-related illnesses.

As for me, I had a wonderful experience. I met a wide range of Dominicans who all had a memorable personal story to tell. The conversations and interactions were enjoyable and I wish I had more time to converse with additional individuals. The community leader was very passionate about the project and proved to be an organized, respectable leader. The members of the Water Committee understood what was expected of them during and after the project. One thing I was against were the BioArena water filters. The water filter project failed in Sabana Larga, a neighboring community in 2017 and I do not see it being successful in this community. However, it is not my place to make such decisions.

*“The water distribution system is not the problem. There is no water! And without water, there is no life”
– Angel Tejada, community leader*



Kelly Buchanan-Gelb

The Zero TB in Tibetans Project (Field Research)

Academic Advisor: Shannon Doocy

Johns Hopkins Faculty Affiliate: Richard Chaisson

Field Counterpart: Kunchok Dorjee

Location: Dharamsala, India

I spent my two-week MPH Field Experience in Dharamshala, India at the base of the Himalayas in an area called McLeod Ganj. It's a place that is home to soaring eagles, snow-capped mountains, delicious steamed momos (a type of dumpling), friendly Tibetans, and His Holiness the 14th Dalai Lama. Despite a calm and quiet community, there is an infectious disease hiding among its residents: Tuberculosis.



Tuberculosis (TB) is the single most important public health problem in the Tibetan community today. Rates of TB in the Tibetan population living in exile in India are nearly three times higher than rates in India as a whole, and more than 150 times higher than rates in the United States. Tibetan refugees are at particular risk for TB transmission because more than half of this population resides in congregate settings such as boarding schools, monasteries and nunneries. This unique population is bound by deep cultural, spiritual, political, and historical ties, and the high concentration of Tibetans living in this relatively small area presents a unique opportunity to fight TB.

The JHU Center for TB Research (JHU-CTR) has supported the TB Control Program of the Tibetan Department of Health for the last 10 years, under the direction of Dr. Richard Chaisson. Specifically, the “The Johns Hopkins Zero TB in Tibetans Project” aims to reduce the rates of tuberculosis in this population. My objective was to conduct several focus group discussions with a random sampling of Tibetan monks and nuns on their knowledge, attitudes, behaviors and perceptions of active TB disease, latent TB infection, and TB treatment for both. The information I collected is currently being analyzed with plans to be used to further support the Zero TB Project. The pending results could inform operational research and policies to promote global uptake of Preventive Therapy and accelerate global TB elimination.



The three Focus Groups Discussions (FGD) included five timid monks, six candid nuns, and a room full of thirty young monks. Typically during a focus group, the goal is to have 5-10 respondents, so you can imagine my surprise when I was greeted by a full room as an audience. Determined not to insult my hosts, I asked that only the front row participate, to which they happily complied. Crisis averted.

It was not only my first time in India, but my first experience conducting qualitative research using FGDs. Initially, I was greeted with very shy but kind smiles, and despite the language barrier I was able to have productive conversations. With the help of the ZTB nurses as translators, I collected the data I needed. Later in our discussions I would ask, “Is zero TB possible?”. Almost all respondents said “no” in one way or another. I then followed up with the question, “So, what’s the solution?”, to which the overwhelming majority replied: “Education!”.

Preliminary review of data from the ZTB team indicates that nearly 30% of Tibetan monks and nuns tested positive for latent TB infection (LTBI) via Tuberculin skin tests in 2018. In the same population, the active TB incidence rate was 216 per 100,000, which is considered very high. Tibetan monks and nuns with LTBI are encouraged to take preventive therapy, to keep the latent infection from becoming active TB, and thus infectious. Many times, I heard LTBI referred to as “a sleeping tiger”, of whom we do *not* want to wake. Despite this knowledge, not everyone who tests positive for LTBI takes preventive therapy (PT) medicine. Several recommendations, such as messaging using the theme of “compassion”, and targeting those monasteries and nunneries who had the lowest PT uptake rates, will be included in my final report.



When I wasn't conducting FGDs, I spent my time talking with the TB nurses and doctors in the clinic. I learned more about the ZTB program and the TB program of Delek Hospital. One nurse disclosed to me, “To reach Zero TB is difficult. It's not only the responsibility of the doctors and nurses, but the patient, family members and community as a whole”.

In addition, I had several occasions to speak with both in-patients and those picking up medications, and heard about their personal experiences. I became close with one particular patient, who told me her experience with MDR-TB, not once, but twice. It's a two-year treatment. She was an English student when she got the test results the first time, at 18 years old. She relayed her experience with depression and coming out of it: “I want to complete my treatment”, she emphasized. Her goal now is to go back to school and focus on Political Science and History.

One more thing, I saved the best for last: the Dalai Lama. I had the opportunity to join a few others from Delek Hospital who requested a personal audience with His Holiness, and that is how I know the answer to the question, “What is the purpose of life?” To which His Holiness the 14th Dalai Lama replied, “Be joyful. Have Compassion. It's not about making money, but making friends. The more friends you have, the happier you will be.”

In summary, you could say that I not only had a successful technical field experience, but also a spiritual one.



Sonia Dhawan

Developing a Cross-Sectional Survey Tool to Quantify the Health and Socioeconomic Effects of Temporary Labor Migration (Field Research)

Academic Advisor: Kristin Mmari

Johns Hopkins Faculty Affiliate: Kate Allen

Field Counterpart: S. Irudaya Rajan

Location: Kerala, India

The aim of my project was to create a survey tool to explore the health impacts of temporary labor migration from Kerala, India to Gulf Cooperation Council (GCC) countries such as the United Arab Emirates. I spent two weeks at the Centre for Development Studies (CDS) in Thiruvananthapuram, Kerala conducting expert interviews with the staff there to gain a better understanding of survey methods, gaps in the research, and general information about migratory patterns to and from Kerala. The Centre already conducts an annual survey on migration in Kerala, and the purpose of my ongoing work with them is to supplement their general survey questions with more specific questions about healthcare access, occupational health, and social adjustment. When the survey tool is finalized, the Centre will use it to collect data on the intersections between migration and the social and behavioral determinants of health, and it will hopefully highlight areas for further exploration.

I had a preliminary draft of the survey tool ready when I arrived in Kerala in early January, and I spent my first week there interviewing staff members who had worked on the general migration survey. These conversations helped me isolate a few major topics that have not already been covered by the existing general migration survey. I edited the survey tool to incorporate the feedback and information I received during my first week, and in the second week I conducted another set of interviews with CDS staff members who had previously migrated to GCC countries for work. I gathered their feedback about the survey's content and design, and finished another round of edits. Later in the week I met with the general migration survey team to go over implementation logistics.

By the time I left Kerala, I had conducted many expert interviews, gone through several rounds of edits, and gained a much better understanding of where this survey tool would fit in with the greater body of research that is being done on labor migration in Kerala. I also had the opportunity to learn more about the Centre's work and their process for developing and conducting surveys on a variety of topics such as gender, migration, and aging in Kerala.

This project is part of a larger ongoing partnership between Dr. Kate Allen in the Department of International Health and Dr. S. Irudaya Rajan at CDS. The aim of this collaboration is to shed more light on the ways that temporary labor migration can affect both short- and long-term health outcomes. While the survey tool is still in the process of being finalized, and the Field Fund Award enabled me to complete the first phase of this larger project. The two weeks I spent at CDS allowed me to put much of my coursework into practice and underscored the collaborative nature of public health, especially at the international level.

Camille Hage

Multi-Purpose Cash Transfers and Health among Vulnerable Syrian Refugees in Jordan and Lebanon (Field Research)

Academic Advisor: Ahmed Hassoon

Johns Hopkins Faculty Affiliate: Shannon Doocy

Field Counterpart: Ghada Khoury

Location: Jordan and Lebanon

Giving back to the community has been the mainstay of the public health workforce. We see pictures everywhere, in brochures, pamphlets and posters of individuals lending a hand to those in reduced circumstances from all sorts of situations: from environmental disasters to war-torn areas. I wanted to experience that exact feeling since I've set foot in the Master of Public Health program at Johns Hopkins Bloomberg School of Public Health. With the fortunate opportunity of obtaining a travel fund award, all I wanted was to take part in the change that those underserved individuals are waiting for.

Headed to Lebanon for a new field experience whereby I tried to understand the implementation of human assistance. For a long time, human assistance has been delivered in-kind whereby goods are provided directly to those in need. However, a lot of constraints stem from this method whether logistical or financial. Not to mention the fact that the items provided may not always be appropriate, offering little choice for beneficiaries. For this reason, I decided to enroll in a project that explores one of the solutions that can offer dignity or even empowerment to refugees.



Up until January 2019, the date of the project, cash transfers remain to be sufficiently and rigorously studied, particularly with respect to health. Hence, the main objective of this project has been to evaluate the effectiveness of multipurpose cash transfers provided by UNHCR to vulnerable Syrian refugee households outside of camps in Lebanon. It focused on assessing the access to healthcare by comparing health-seeking behavior, health service utilization and expenditures among households that are selected to be transitioning on or off multipurpose cash transfer (that do then do not receive cash and vice versa).

The important aspect of the study has been including a subset of households that will participate in focus group discussions to better understand how the transition has affected them. Being a native Arabic speaker, this has proven to be a perfect opportunity to implement my clinical and humanitarian skills. But what I realized is that I learned more from them; eventually building lifelong lessons.



I've visited every region of Lebanon from Akkar in the North, to Tyre in the South along with Beirut, the capital on the West and the Bekaa Valleys in the East. Each had its uniqueness in terms of living situation for Refugees. For example, in the north, there were mentions of transportation issues to hospitals while in the capital the main issue has been the expensive healthcare; in the south, they dreamt of being able to procure adequate healthcare for their children whereas the east prayed for the day they could pay pharmacies for their chronic medications.



Yet, the main thematic everywhere has been the will to keep going. All have persevered and refused to lose hope in a better world. I wept while hearing the hardship that some go through while I beamed with pleasure to stories of cheerfulness and optimism for a brighter tomorrow. I couldn't but be overzealous to the restored self-esteem due to the adaption of cash transfers as assistance.

With this, I learned how to appreciate the other side of a country that now constitutes more than a million refugees. I've apprehended how to adapt when the logistics weren't available, when the snow storms blocked our way to the focal points, when refugees were afraid of speaking out. Nothing was capable of bringing this project to a halt since all I wanted was to take part in the refugees' dream of a better tomorrow. Simply apprehending the real meaning of being grateful.

Through this field experience, I recalled what Carl Sagan stated, that looking at the Earth from Space nullifies all national boundaries. Fanaticism and chauvinism are nonexistent from a distance, the only "way" to be is to preserve and cherish our only home and its inhabitants.

Lisa Hoffmann

Enhancing the Quality of Screening and Measurement of Hypertension for Out Patients in an Ambulatory Setting in Tanzania (Field Research)

Academic Advisor: Gilbert Burnham

Johns Hopkins Faculty Affiliate: Anbrasi Edward

Field Counterpart: Frank Manase

Location: Tanzania

From January 2 to January 21, 2019 I had the opportunity to conduct research in Dar es Salaam, Tanzania. This research and the experience served as both my capstone and practicum projects. The capstone aims included: conducting knowledge and skills competency assessments of health care workers providing blood pressure screening and management and enhancing the knowledge and skills of health care workers to ensure accurate screening of patients through the use of training videos produced by the Johns Hopkins RESOLVE to Save Lives (RTSL) Team. The final deliverable will be a research report that will be submitted for publication. The practicum aims included: the documentation of the process of building the manuscript and presenting and initiating a quality improvement framework within the clinic I was conducting research as well as creating a written assessment of the training videos.



I was fortunate to work with an alumni of the Johns Hopkins Bloomberg School of Public Health MPH Program who is currently serving as the CEO of CCPmedicine Medical Clinic, a clinic devoted to reducing the burden of NCDs in Tanzania. CCPmedicine functions as a private clinic in Dar es Salaam, but provides free medical services and health promotion activities (for example: health fairs and weekly community exercise events) for the community through generous community donation and volunteer health care workers from the surrounding area.

The experience of conducting research and working with CCPmedicine during the three weeks of my stay was an incredible opportunity. This was not for the reasons one may imagine however. The work was equal parts exhausting, challenging, and discouraging at times, but also inspiring, interesting, and rich in personal and cultural connections. I spent many hours preparing for the research, researching hypertension care in Tanzania, researching and building the assessment tools to use in the field, presenting and meeting with members of the RTSL team, pilot testing the tools within a clinic at Hopkins Medical Center, and creating and recreating logistical plans for how the sample size would be reached.

When I finally stepped into the field, everything was much different than I anticipated. Nearly every professor in every class has said this, but now it was my chance to live it. I quickly realized that English proficiency was not what was anticipated and that every logistical plan I made was not going to work as anticipated either. I further developed my ability to be flexible and worked very hard to meet the sample size and not interfere with busy clinical activity.

Working with the CCPmedicine staff to accomplish the research goals and discuss quality improvement strategies was truly rewarding. The staff were motivated and welcoming, engaging in group meetings every morning to think about the issues existing at the clinic and possible solutions. Working with the clinical manager and Human Resources head, we walked through an abbreviated form I created of the quality improvement process. I also engaged in many conversations with the health care staff about health promotion within the clinic and in Tanzania in general.

My favorite part of the experience was holding discussions with the most engaged health care workers who took part in the study. Several wished to talk further about the videos and discuss the answers to the assessment questions after the formal study portion. We would review the answers and share our experiences working in the clinical setting. Seeing their enthusiasm for providing quality care was inspiring and a great reminder as to the positive effects of connecting people across the globe to promote health and well-being.

Allison Jeffery

Measuring prevalence and examining the drivers of child marriage among displaced populations in Northern Iraq (Field Research)

Academic Advisor: Courtland Robinson

Johns Hopkins Faculty Affiliate: Courtland Robinson

Field Counterpart: Lionel LaForgue & Janna Metzler

Location: Iraq

Project Context

The “Prevalence and Drivers of Child Marriage” project is a collaboration between JHSPH, UNFPA, and the Women’s Refugee Commission that aims to measure prevalence and risk factors of child marriage among refugees, internally displaced people (IDPs), and host communities in four humanitarian contexts. Within the Kurdistan Region of Iraq (KRI), the project is focused on the Erbil, Duhok, and Sulaymaniyah governorates, in which over one million displaced people from Syria and southern Iraq live in settlement and non-camp settings.¹ The project uses quantitative and qualitative research methods to determine the prevalence and driver of child marriage in each of these populations, compare results across populations, assess risk factors for early marriage, and analyze the impact of conflict on child marriage trends.

Pre-Arrival

Before leaving for KRI, I studied the literature on displacement in the region, as well as general child marriage trends. Because the project seeks to fill a gap in the literature on child marriage among displaced populations in KRI, I was unable to read a substantial amount on child marriage in KRI specifically. Additionally, I reviewed and suggested edits for the child marriage rates and attitudes survey that will be conducted in 600 households across the three governorates.

Project Activities

In KRI, I worked out of the UNFPA offices in Erbil and Sulaymaniyah with the gender-based violence team. During the first part of the trip, my work focused on finding population estimates to inform the sampling strategy, as well as training local staff on the Magpi data collection software. Later, my work shifted to troubleshooting procurement



UNAMI Compound, Erbil

¹ Evaluating the impact of early marriage interventions in three emergency contexts. Elrha Web site. <http://www.elrha.org/map-location/child-marriage-emergency-contexts/>. Accessed Oct 5, 2018.

of the tablets needed for data collection, preparation for enumerator training, and qualitative guide review. Near the end of my trip, I visited refugee and IDP settlements to speak with camp managers and women's space directors about camp population data, trends, and perceptions of child marriage among the populations living there.

Reflection

Working on this project in KRI provided me valuable experience conducting research in a complex humanitarian environment. I learned about sampling strategies in emergencies and improved my skills in survey design and implementation. Through my personal interactions, I also gained a better understanding of the Kurdish region and the effects of movement of refugees and IDPs across the Middle East on women and girls. Observing and participating in UNFPA activities, including a gender-based violence working group meeting at UNHCR, was professionally beneficial because I hope to work for these organizations on GBV prevention and response in the future.



Kawargosk Refugee Camp, Erbil Governorate



Women's Space, Kawargosk Refugee Camp

Future Activities

I will continue to work on this project as a research assistant for the remainder of my MPH studies. I will also use this project as the basis for my capstone, and potentially contribute to published journal articles, policy briefs, and fact sheets on child marriage among displaced populations. Overall, the conclusions drawn from this project will inform future programs working to reduce rates of child marriage among refugee and displaced populations, with the ultimate goal of improving the health and welfare of adolescent girls.

Zaina Kiragu

Evaluating the Effectiveness of the 'Bridging Income Generation with Group Integrated Care' (BIGPIC) Project in Eldoret, Kenya (Field Research)

Academic Advisor: Alain Koffi

Johns Hopkins Faculty Affiliate: Becky Genberg

Field Counterpart: Sonak Pastakia

Location: Kenya

Project Background & Objectives

To address prevention and management of chronic disease in rural western Kenya, the Academic Model Providing Access to Healthcare (AMPATH) rolled out the project – Bridging Income Generation with group Integrated Care (BIGPIC). This is a unique model that combines delivery of care for hypertension and diabetes with microfinance and agribusiness activities, with the aim of bringing health services closer to the community and facilitating economic empowerment. The project initially focused on patients who screened positive for hypertension and diabetes, but has since expanded to include non-patients, with the view to incorporate uptake of insurance as part of the model. To date, there are 57 active microfinance groups with 849 members. There are members who are patients receiving group care through the project as well as non-patients who only engage in microfinance activities. The main objective of this project was to evaluate the new iteration of the model that has included non-patients and uptake of insurance, to determine the interplay between microfinance participation, agribusiness participation, uptake of insurance and health outcomes.

Activities

With guidance from my field counterpart, project lead Sonak Pastakia, project manager Tina Tran, and project coordinator James Kamadi, I undertook the following:

1. Definition of key indicators to characterise each component of the model:

- a. Microfinance participation: defined by percentage of meetings attended/cycle, amount in Kenya shillings purchased as shares/cycle, total amount in Kenya Shillings borrowed as loans/cycle and total amount in Kenya Shillings contributed to the social fund. Dates of beginning and end of cycle were also recorded.
- b. Agribusiness participation: defined by attendance at agribusiness training (yes/no), type of training attended (Africa leafy vegetables/poultry farming/dairy farming), commitment to engage in agribusiness (yes/no) and dates of training delivery where this information was available.
- c. Uptake of insurance: defined by status of National Health Insurance Fund (NHIF) enrolment (yes/no), NHIF number and date of enrolment where this information was available.
- d. Health outcomes: defined by date of screening, diagnosis (blood pressure/diabetes/both), blood pressure/random blood sugar reading at first care visit and most recent care visit, treatment prescribed.

2. Attendance of microfinance meetings and observation of activities:

I had the opportunity to attend the microfinance meetings of 3 groups in Milo: Kakimanyi Dispensary, Kamaminet and Milo Support Group. I also attended 2 group care sessions– Khalumuli group care delivered at The Salvation Army Yalili Corps Church, and Milo CDDC group care delivered at the Chief's office. Through engagement with microfinance participants and group care patients, I gained a deeper understanding of the context of the project, and the impact it had on the daily lives of members of the community.

3. Engagement with Group Empowerment Service Providers (GESPs):

GESPs are community volunteers trained by AMPATH on microfinance activities. They mobilise community members to form microfinance groups, and guide groups on how to run microfinance activities. A given GESP will have multiple groups – thus they were a very helpful resource to understand the heterogenous nature of groups in the region, the challenges faced in coordinating microfinance activities, as well as the strategies that are employed to overcome these.

4. Creation of a single database with key indicators of the model:

- a. I created an Excel spreadsheet with the indicators identified in part 1 and set out to populate it with information of participants in the project.
- b. I extracted microfinance data from paper ledger books of 4 groups: Okoa Jahazi, Kingdom Family Group, Wesoba and Milo CDDC. The decision to focus on these 4 groups was purely logistical, in that these were the only groups that were able to provide their ledger books during the time I was in the field.
- c. I extracted agribusiness information from the existing agribusiness spreadsheet and supplemented this with information from Group Empowerment Service Providers (GESPs) of each of the 4 groups of interest

- d. I extracted insurance information from the existing NHIF spreadsheet and supplemented this with information from GESPs.
- e. I extracted health outcomes data from the existing clinical outcomes spreadsheet which was populated with clinical data from 23 of the 57 groups. I supplemented this with information from clinical officers and GESPs.

Outcomes & Community Impact

While the initial objective to evaluate the new iteration of BIGPIC was not achieved by this field experience, this body of work is unique in that it seeks to characterise microfinance participation, which has previously been described as 'yes/no', at a more detailed level. The extraction of active participation, shares purchased, loans taken and contributions to the social fund will all be useful in establishing a definition for 'active microfinance participation'. This can then be linked to health outcomes, uptake of insurance and engagement in agribusiness activities. The collated information from this database could therefore be used to determine the impact of socio-economic interventions on health outcomes. In addition, my engagement with GESPs and the microfinance groups highlighted the fact that their efforts and activities mattered and were being evaluated, which raised morale.

Challenges

The key challenges that I faced when undertaking this research were logistical. Due to the fact that microfinance data was recorded manually on paper, the process of transcribing this information into a digital format was arduous. Access to manual records proved to be challenging in some cases – as the physical copies were not always readily available. For instance, we had initially set out to extract the microfinance information for the 23 groups that had up to date clinical data – but by the end of my 2-week stay we had only gained access to the ledger books of 4 groups. In addition to this – each microfinance group functions slightly differently – some have 12-month cycles, others have 13-month cycles. In addition, there was no standard timeframe within which members could join groups – thus some members only participated for 9 months of the cycle. Furthermore, the frequency of meetings varies as well – while Wesoba and Kingdom Family Group have weekly meetings, Okoa Jahazi had meetings every two weeks and Milo CDDC had monthly meetings. It was therefore important to ensure that the information that I extracted was uniform and meaningful to facilitate comparison of groups at the analysis stage.

Current and Future Work

I am currently working on a descriptive analysis of the data that I collated for the 4 microfinance groups. This will provide some preliminary trends as to what can be expected once all data from the other microfinance groups has been collated. I am also coordinating the collation of data from the other microfinance groups – through communication with James Kamadi the project coordinator, and Benson Kiragu – who has taken over extraction of the microfinance data. When there is a large enough sample size, an analysis of these variables will be undertaken to determine their interplay and the impact each has on health outcomes.

Considering the challenges faced in collating the data for evaluation, a standardised system for record and management of data would facilitate collection of data that can be analysed efficiently. This could be achieved through:

- Setting a schedule of dates to be followed by clinical officers for submission of up to date clinical information to the program coordinator
- Shifting all clinical records for group care to the electronic AMPATH Medical Record System. The process of shifting entry of data in real time through the AMRS system is currently being piloted.
- Engagement of GESPs in extraction of microfinance information – explaining the importance of the information and having them adjust recording in ledger books to make it easier to extract
- Hiring a data manager whose task would be to organise the data

Summary

This project was extremely fulfilling for me because of its multifaceted nature. It looked at several socio-economic interventions and it was interesting to see the impact that these had on the lives of individuals in the community. I was inspired to see the entrepreneurial spirit that BIGPIC has inspired and the capacity it has equipped individuals with to collaborate and engage in income generating activities. It is a fantastic example of a community healthcare delivery model that has been leveraged in many ways to address several challenges faced in rural Kenya including logistical challenges of access to care, lack of a stable income and lack of insurance. I am thankful to the MPH Field Award Committee for facilitating my engagement in this project. I am also extremely thankful to Becky, Sonak, James, Tina and Benson – all of whom continue to provide support with my contribution to BIGPIC.



Outside Milo Health Centre with GESPS Masinde Wasike and John Muliro



In the AMPATH consortium space at Moi Teaching & Referral Hospital with Project Lead Sonak Pastakia, PharmD, and Project Coordinator James Kamadi.

Chiho Miyake

Investigation on the Effects of the Acute Financial Crisis on the Health Service Administrations in UNRWA (Field Research)

Academic Advisor: Paul Spiegel

Johns Hopkins Faculty Affiliate: Paul Spiegel

Field Counterpart: Akihiro Seita

Location: Jordan & Lebanon

Background

For over sixty years, the United Nations Relief and Works Agency for Palestine Refugees in the Middle East (UNRWA) has been the largest and the most consistent provider of health services for over five million Palestinian refugees in Jordan, Lebanon, Syria, Gaza Strip, and the West Bank. UNRWA experienced a significant financial crisis in 2018 since the United States, who had been historically the greatest donor to UNRWA, announced the reduction and termination of its financial support to the agency.

This field research was conducted as a part of the research project of the Johns Hopkins Center for Humanitarian Health to help UNRWA with scenario planning for the ongoing financial crisis in preserving the health status of Palestinian refugees. The field research aimed at: investigating the effects of the acute financial crisis in 2018 on the health service administrations, and the coping strategies adopted at different managerial levels in two fields of operation in UNRWA: Jordan and Lebanon.

Methods

Data was collected through qualitative methods in January 2019: two in-depth interviews and five semi-structured key informant interviews in Jordan and eight semi-structured key informant interviews in Lebanon. In addition, secondary quantitative data on the key indicators on health system performances were collected for further analysis to triangulate the multiple data sources.

Field Research

Before departure, the student developed the research plan, interview questionnaires, and the data collection instruments for the quantitative data with the project team.

The field research was organized over the winter intersession for a total of two weeks with the first week in Jordan and the second in Lebanon. The student spent the first few days in Jordan to discuss and modify the research plan, questionnaires, and the data collection instruments in consultation with the health team in UNRWA headquarters to ensure that the research reflects the unique and wide variety of the political and socioeconomic contexts surrounding Palestinian refugees in each country.

The field visit was mainly focused on collecting qualitative data through the interviews. The interviews were conducted in the headquarters, field offices, and seven selected health centers of UNRWA as well as in the secondary and tertiary hospitals of Palestinian Red Crescent Society in Lebanon. Upon consultation, seven health centers were selected to reflect geographical and socioeconomic spread (camp vs. non-camp; urban vs. peri-urban) in each country. The student adopted a different questionnaire for each organization and the level of decision-making. On the last two days of the field experience, the student conducted two in-depth follow-up interviews in the headquarters reflecting the information obtained from the previous interviews, analysis of the quantitative data, and facility observations.

Results

UNRWA has sustained its core health services and even strengthened the mental health services across the five fields of operation during the significant underfunding situation in 2018. However, the interviews revealed that there were various perceived impacts of the financial crisis on the

service administrations in UNRWA at the individual, group, and organizational level. One of the most significant and widely recognized impacts across the agency was the shortage of human resources for health as the agency could not immediately replace the vacancies due to the budget shortfall. The interviews indicated, however, that these challenges were not the mere impacts of the acute financial crisis but the complex issues posted by both historical and recent political and financial pressures including the Syrian conflict.

Despite the acute and chronic political and financial pressures, UNRWA has sustained its services over time. The interviews highlighted some of the resilience capacities of the health system in UNRWA and the coping strategies adopted at different managerial level. These capacities and coping strategies will be further analyzed systematically in the capstone of the student.

Reflection

The field experience gave the student a hands-on learning opportunity to develop public health competencies in qualitative research as well as cultural competence. Conducting interviews on a politically sensitive topic with the language barrier was a challenging experience and required much technique to encourage the participants to talk from their own perspectives. Building rapport through the preliminary talks and discussing the research topic with participants and interpreters before the interviews helped in successful communication. The participants often brought up the critical perspectives which the student did not expect prior to the field visit. It made the interviews less structured, but as is often the case, the student learned a lot from devising ways of probing questions flexibly.

This experience also gave the student a better understanding of the health system analysis. The student learned the multiple dimensions of the decision-making process in an organization when exposed to a threat and still retain control over its functions.

Lastly, the MPH Field Experience Award enabled the student to return to the organization which sparked her career aspiration in the transitional phase of humanitarian assistance. The field experience granted the student an opportunity to integrate her past experiences in UNRWA with the academic knowledge and skills learned in the MPH coursework. The experience will ensure the continued commitment of the student to working with the displaced population.

Annex. Selected photos from the visit



Photo from left to right:

- UNRWA Lebanon Field Office
- UNRWA Health Clinic in Beirut, Lebanon
- Burj al-Barajneh Refugee Camp, Beirut, Lebanon
- Student (right) with UNRWA Health Director, Dr. Akihiro Seitani (left) in Amman, Jordan

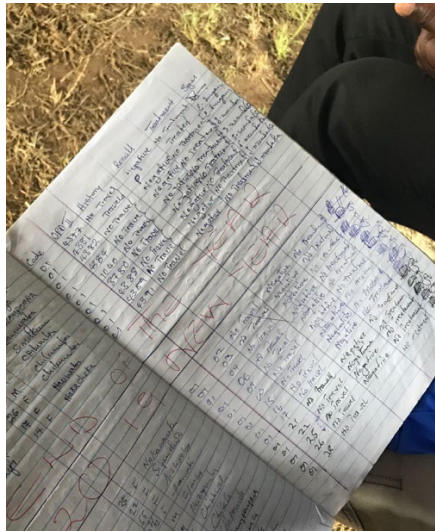
Jadmin Mostel

Risk Factors and Malaria Transmission: The Role of Relative Humidity and Mosquito Foraging in Summer. (Field Research)

Academic Advisor and Johns Hopkins Faculty Affiliate: Clive Shiff

Field Counterpart: Jenny Stevenson & Makuma Lubinda

Location: Zambia



Top left: An example of a data logger in the village of Simuwana.

Top right: An example of a rural health center log of malaria rapid diagnostic test results (names are obscured).

Bottom left: Simon's village, one of the locations of the data loggers.

Bottom right: One of the rural health centers we visited (Nalube).

Background Information

I traveled to the Macha region of Choma, Zambia as part of my Capstone project to assess environmental determinants of malaria incidence. I worked alongside the partnership between the Macha Research Trust (MRT) team and the Johns Hopkins Malaria Research Institute (JHMRI) to understand their current projects and expand on an ongoing cohort study. Within the Southern province of Zambia, malaria incidence has been declining in over the past decade but is still reported from various health centers within the Choma area. Because of declining malaria incidences, efforts are primarily focused on malaria

elimination rather than control. Since 2016, data loggers placed at selected villages in the Southern province of Zambia have been collecting environmental data, such as relative humidity, dew point, temperature, as well as date and time collected. These data loggers are programmed to record every hour and have accumulated a large data set over the past two years. My project focuses on using these data to assess environmental trends associated with high and low malaria incidence areas.

Project Research

Along with the Macha Research Trust team in Macha working on the malaria data logger cohort study, I visited each of the data logger sites (8 in total, 2 loggers at each site) as well as each rural health center nearby associated with the data logger location. The MRT team and I met with rural health center (RHC) community leaders (doctors, nurses and/or community health officers) to understand if and where indoor residual spraying occurred over the last year within each village, and if there had been any malaria cases in January 2019 thus far. Most RHCs did not exceed one to two cases of malaria in the first two weeks of January, but one RHC in particular, Siabunkululu, reported 4 cases as of mid-January. This was alarming information as it was a high case number relative to the surrounding health centers. This further illuminated the strong need for continuing malaria research in the area to better understand why malaria incidences are higher in certain parts of the Southern province compared to others, and it reinvigorated my purpose for studying this issue in Macha.

When visiting each logger location in the villages, we sought to ascertain any environmental factors specific to each location which could be influencing the trends in observed data. For example, the Chikanta village had a data logger suspended in a tree above a water-filled hole in the tree trunk, and one logger in the village of Nchbwende was next to a firepit; both of these observations, amongst others, could be influencing the trends in relative humidity observed from the collected data.

A second half of my Capstone project uses ArcGIS, a geospatial mapping software. I had the opportunity to meet with the GIS specialist at the Macha Research Trust, where we discussed different ways to visually represent environmental determinants of malaria. Alongside conversations with the Scientific Director at Macha, I decided to incorporate vegetative indexes into my Capstone project. The aim is to assess if vegetative indexes in high malaria incidence locations differ significantly from low malaria incidence locations; if so, density of vegetation may have an influence in mosquito foraging habits. Being able to have conversations with the team at Macha was extremely valuable, because I was able to streamline my project to the aims of the overall cohort study.

Conclusion

My time at Macha was enriching and added immense value to the quality of my project. I was able to gain context to the data logger locations, real-time malaria incidence in the Southern province, and the importance of further exploring environmental determinants of malaria incidence. I am excited to have been part of a project that aims to move from malaria control to malaria elimination, and to contribute to the ongoing cohort study at the Macha Research Trust.

Ryan Nugraha

Observing The Impact of Cigarette Excise Tax Expansion in Indonesia (Field Research)

Academic Advisor: Connie Hoe

Johns Hopkins Faculty Affiliate: Rajeev Cherukupalli

Field Counterpart: Budi Hidayat

Location: Indonesia

Through the practicum opportunity given by the office of the Master of Public Health (MPH) program of the Johns Hopkins Bloomberg School of Public Health, I, had the opportunity to conduct field research in Indonesia aimed to raise support on increasing the cigarette excise tax as part of strengthening the tobacco control effort.

Indonesia has one of the highest tobacco use burdens in the world, with tobacco consumption affecting more than one third of the population.¹ Tobacco excise taxes are low and a road map to raise taxes was abandoned in 2018. At the same time, Indonesia has a known funding gap – the national health insurance scheme (JKN) is underfunded to the tune up to IDR 16 trillion. My research took the form of qualitative interview series, understand the future prospects of advancing two main policies forward regarding tobacco control: raising the excise tax itself and earmarking it for sustaining the national health insurance of Indonesia (or “*Jaminan Kesehatan Indonesia*” or *JKN*).



Working with faculty members at JHSPH, Dr. Rajeev Cherukupalli and Dr. Connie Hoe, and my host institution, Center for Health Economics and Policy Studies (CHEPS) of the University of Indonesia, I developed a field guide and questionnaire. After IRB review and approval, and identification of stakeholders, interviews were conducted between Jan 7th and -11th 2019 in Jakarta, Indonesia. 15 stakeholders were interviewed, ranging from academics, government officials, and NGOs representatives and chiefs, identified and carefully selected based on selection matrix developed by the researcher.

The interview itself were structured to touch 3 main subjects: 1) to assess stakeholders’ knowledge and perception about tobacco demographics and tax, 2) to gain stakeholders’ opinion on earmarking of tobacco tax for national health insurance, and 3) to explore barriers and opportunities for increasing the cigarette excise tax within the policy environment. These interviews are conducted in Jakarta, Indonesia, and asked within the context of the country.

A standard protocol was followed for stakeholder interviews. Upon starting the interview, respondents were give informed consent and guaranteed their confidentiality both within and after the interview. The interview only will start after the administrative questions addressed and agreed upon. Throughout the

¹ World Health Organization. *WHO Report on Global Tobacco Epidemic*. 2017

interview, knowledge and perception of stakeholders regarding tobacco demographics and excise tax were assessed, both historically and in the present, and how likely it will change in the future. After assessing their knowledge and perception about the current situation, they were ‘challenged’ to give their opinion about two main policy proposals: 1) increasing the cigarette excise tax, and 2) earmarking the tax (deciding on certain percentage of certain tobacco tax) for funding the *Jaminan Kesehatan Nasional*.

Within these two policies, many aspects were addressed, namely its feasibility, likelihood of impact, and challenges faced for passing these mandates, related to Indonesian context. In the end, all stakeholders were asked about on whether they are pro- or contra- of passing the policy, amid all considerations. This research, in a nutshell, not only will generate a clear picture of the policy standing (about the current cigarette excise tax), but also will provide evidence on: 1) what is needed to move it forward (increasing and earmarking it), as well as 2) who needs to be engaged and partner with, and 3) how (or what is the strategy) on moving it forward within the policy environment.

Through these interviews, it is hoped also that we can come up with a substantial evidence and framework for better tobacco control efforts, especially from the angle of tobacco economics. According to the WHO MPOWER Strategies, as the country-level implementation measure of Framework Convention on Tobacco Control (FCTC) progress, raised tobacco tax is one of the successful indicator of the program. Since Indonesia is on to its 5th year in adopting and implementing Universal Health Coverage, substantial opportunity has been spotted on creating a channel for funding the UHC through tobacco tax. Therefore, evidence and framework are needed to guide the country’s tobacco control effort forward.

Transcription and codification of the interviews are in progress. Preliminary results suggest that, while stakeholders agree that tobacco taxes have to be raised and there is a need to fill the insurance funding gap, there is no broad consensus on the exact fraction of tax revenues that should be allocated to insurance and whether tobacco tax revenues are a sustainable revenue source for the purpose.

It is hoped that this project will lay a substantial evidence in the form of guidance report, policy brief, and journal (as part of capstone requirement). Through this coupled practicum-capstone experience, it is hoped not only the researcher will gain a substantial addition to his skill-box but will help Indonesia to move forward with its tobacco control efforts: one step further of saving millions, at a time.

Biswas Pradhan

To examine and conduct system analysis of a community-based health model incorporated by Himalayan HealthCare in Dhading and Ilam districts of Nepal (Field Research)

Academic Advisor: Keith West

Johns Hopkins Faculty Affiliate: Henry B Perry & Keith West

Field Counterpart: Anil (Sharad) Parajuli & Robert C. McKersie

Location: Nepal

Acknowledgement: I would like to express my sincere gratitude to the MPH Field Experience Award committee, Dr. Henry Perry (practicum preceptor), Dr. Keith West (faculty advisor), Paulani Mui, and the entire Himalayan HealthCare team for their tremendous support and guidance, making my practicum journey such a rewarding one.

Summary: It was an eye-opening, inspiring, adventurous, and fun-filled practicum experience in remote villages of Dhading district in central Nepal. Although I originally hail from Nepal, I came to the United States for higher education when I was 21. I never had that opportunity to delve into and understand the country's work culture and health system before.

For my practicum, I had partnered with Himalayan HealthCare (HHC), a nonprofit organization that provides primary health care, community education, and income generation opportunities to remote mountain communities in rural Nepal. Initially, my practicum objectives entailed learning the organization's culture, its operations, and conducting SWOT analysis to identify any needed adjustments for strategic planning. However, after meeting with Mr. Anil Parajuli, the executive director of HHC, and other staff members, my agenda got a little modified and the practicum was more focused on the study of primary health care, public health services, and observing community needs of remote villages. Mr. Phe Dorjee, a program coordinator at HHC, had been appointed to travel with me and he had made all necessary arrangements for lodging and food while we were in the villages.

Mr. Phe Dorjee and I departed for Dhading Besi from Balaju bus station on Tuesday, January 1st, 2019 at 8:30 am. Dhading is one of the seventy-seven districts of Nepal and Dhading Besi is its district headquarters. Dhading is located in central Nepal and it takes almost three hours via bus from Kathmandu. In Dhading Besi, we got the opportunity to explore the district hospital that provides primary care, lab services, and some surgical operations. Mr. Dorjee took me around the newly constructed 'Out Patient Department' building that was constructed by Himalayan HealthCare with financial support of AmeriCares Foundation. This building was officially handed over to the district hospital on October 29th, 2018; however, the building was not in operation yet. From Dhading Besi, we then hopped in a local jeep and we were en route to Dundure, a four-hour of bumpy and dusty off road ride. Dundure was the last stop that a vehicle could reach. From Dundure we had to hike through the mighty hills, rivers, and cliffs to reach the villages. On our way to Dundure, we witnessed a major accident where a jeep full of passengers fell off a steep cliff. The driver had jumped off from his seat and ran away before the jeep started sliding down the cliff. All the thirteen passengers were severely injured and it took almost a couple of hours for a helicopter to arrive and rescue the casualties to hospital in Kathmandu.

The first village that we stopped at was Jharlang, which had an estimated population of 3000-5000 people. We visited the Jharlang local health post talked to the local midwife, who had just helped in delivering a healthy baby. She asserted that over the past two decades, Nepal has made remarkable strides in improving maternal and child health outcomes. We then hiked for almost three hours to reach Borang, a beautiful village that comprised of almost 150 to 200 households. There was only one health unit in Borang that provided basic primary care services. The health unit was staffed by two health assistants who were responsible to provide basic and urgent health care services. We also met a local alderman and he had shared his strategies in transforming Borang into a self-sustaining model village. After a scrumptious lunch in Borang, we then headed towards Sherthung, a much larger village that comprised of more than 300-400

households. In Sherthung, we first stopped at the Himalayan HealthCare branch office, and the local staff had heartily welcomed us by giving traditional marigold garlands. Mr. Dorjee's hometown was in Sherthung, and there wasn't a single person who didn't know him in-person. He was a survivor of the devastating 2015 earthquake where he had been submerged in the rubble for more than a couple of hours. He played a catalytic role in the community and I am personally inspired by his dedication and commitment in developing his village. The last village that we had explored and studied was the village of Tipling. In all of the three villages, we had the opportunity to visit the local houses, health posts, and also interview the villagers and health assistants. While walking through the villages, I was heartbroken to see the plight of the local children. Their hands were all chapped and skins cracked because of cold weather. They played with mud, sticks, ropes, and stones. One little village on our way to Sherthung didn't have a single restroom. People had been openly defecating on roads and by the water sources.

Based on my observational study, below are the key findings:

1. Accessibility: There were no accessible roads in any of the villages, and people had to depend upon mules to carry household goods. From Dundure, the locals themselves had to carry heaps of heavy loads by themselves and walk through perilous cliffs to reach their destination. In case of any health emergencies, they had to rely on a helicopter for transportation to city hospitals, and all the fees needed to be borne by the individuals. At the health posts, out of 50 medications, only half of them were at stock. It took almost 1-2 months for medications to process and arrive to these villages.
2. Nutrition: I was shocked to see the amount of rice that the local villagers consumed everyday. The staple food consisted of rice, lentil soup, potatoes, spinach, and meat curry. Due to high elevation, the land isn't congenial to grow varieties of vegetables. People do not eat fruits at all. It is crucial to raise awareness on nutrition and nutrition-related diseases among the villagers. The locals can take initiatives in community gardening and try cultivating varieties of fruits and vegetables as appropriate to climate and elevation.
3. Health Screening: I learned that the local people in all the three villages visited the health post only if they had health issues. The locals were not aware about the concept of health screenings - pap smear screening, blood pressure, and blood glucose screenings. Timely health screening is quintessential for early diagnosis of any diseases and for taking appropriate preventive measures.
4. Dental Screening: The community didn't have any access to dental clinics. In circumstances devoid of any dental care and resources, community education on dental hygiene (proper brushing and flossing technique) can play a vital role in preventing dental problems and gum diseases.
5. Waste Management: Although the villages were surrounded by lush green trees, hills, and might mountains, there was a dire need of proper waste management system. Community education on proper waste management really needs to be addressed. People threw wrappers, solid wastes, organic and inorganic matters, wherever they liked, polluting water sources and the serene ambience.

Though there exist many public health challenges in the villages of Jharlang, Borang, Sherthung, and Tipling, the local communities and wards are taking initiatives to address community health and social needs. The decentralized system has given authorities to the local communities to develop and administer their own policies. Each house has installed solar bulbs for electricity and phone services are available throughout the villages. Despite inadequate resources and infrastructure, people in the villages have been enduring all adversities and living with shared values, mutual respect, and understanding.

Celina Santiago

Community Needs Assessment and Capacity Building in Sector Maná by Puerto Rico Stands (Field Research)

Academic Advisor: Joel Gittelsohn

Johns Hopkins Faculty Affiliate: Kathleen Raquel Page

Field Counterpart: Margarita Ramos & Yonaira Rivera

Location: Puerto Rico

When Hurricane Maria hit in 2017, it was an incredibly trying time for many Puerto Ricans. As a Puerto Rican myself, this time was marked by great difficulty in communicating with family in Puerto Rico. Learning anything about how the island and the people truly were following the natural disaster was rendered nearly impossible. It was almost one month before I heard from my grandparents through a family friend who had walked miles to reach them with a cellphone that was finally working. This was when I finally learned that while things continued to be difficult for those on the island and much had been lost, our family and friends were okay. However, though many were surviving the circumstances, an unprepared infrastructure on the island left many lacking vital necessities such as water and power for extended periods of time. People were without these from one to three to even seven months after the hurricane and long into 2018, the intermittent loss of water and power was a common occurrence.

All of this was occurring as I was working on my application for my master's in public health and I could not help but wonder how on a large scale not only relief efforts could be improved, but more long-term solutions and improvements to infrastructure could be implemented to better prepare the Island for emergency situations. I knew that if the opportunity arose, I wanted to work on a project in Puerto Rico and to understand more about this situation through a public health lens.

Connecting with the members and mission of the Baltimore based organization, *Puerto Rico Stands* has been a really awesome opportunity to learn more about what it means to respond with action rather than hopelessness to such a difficult situation. So far assisting with organizational needs has been an opportunity to learn a great deal about ways to approach community-based projects. Assisting with data collection and meeting with community leaders, I learned practically the challenges in data collection. However, this experience also elucidated the importance of connecting with community leaders passionate about seeing their own communities thrive. Partnering with community leaders for data collection opened up the opportunity to gain a greater rapport with community members, allowing them to open up more about the difficulties they continue to face since the hurricane. The hope is that this information can be used to help inform capacity building workshops and implement a sustainable community project.

Helping to collect, input, and analyze data, I saw the importance of being able to pilot a survey if the timing and opportunity allowed for it. This was not the case with this survey, but I gained a great deal of perspective in understanding how survey's can be made appropriately for the intended audience and how the way in which surveys are built can influence the way the data can be used later. A summary from the results of the community needs assessments will be subsequently discussed.

In total, ninety-four household surveys were conducted in four sectors of Barranquitas, Puerto Rico. Of ninety-one reporting ages of household members, thirty-nine households (42.86%) had minors. The average age of respondents was 51.87 ± 19.97 years and the average age in the households overall was 39.23 ± 23.41 years. The majority of the population surveyed (79.12%) reported an income level of under 25,000 dollars a year. However, the majority surveyed (79.79%) owned their home. Hurricane María affected much of the population surveyed and these affects were seen in various ways.

Eighty-five households reported damages to their homes, including structural, mold or other damages. While many (65.43%) reported fixing the damages, fifty-six households reporting still having damages that remained unfixed. Further, while many with damages had sought assistance from FEMA (84.52%), not all received this assistance and of those that reported receiving the assistance, eighty percent reported that the funds received were insufficient to meet their needs. While only thirty-one households reported at least one household member having to vacate their home as a result of the hurricane, fifty percent of those reporting length of displacement were displaced for 6-12 months or were still unable to return to their homes. Seventy people (74.47%) reported being without communication for more than a month.

Although 97.87% of people reported having health insurance, eighty-two people still reported that a household member had a chronic condition, and forty people reported having some sort of healthcare access issue during the hurricane. While fewer households reported physical injury as a result of the hurricane (30.49%), many reported (69.15%) still dealing with mental health issues following the hurricane, with most reporting feelings of anxiety or depression. For households with minors, 35.70% reported minors facing some sort of mental health issues following the hurricane. Mental health was the most frequently selected educational topic of interest for later educational workshops.

Before the hurricane, a minority of households had a contingency plan for hurricanes (29.03%), knew where the nearest shelter was (40.86%), and had an electric plant (37.23%). Since the hurricane, the majority of households now reported being more prepared for hurricanes with 60.00% reporting having a contingency plan for hurricanes, 54.44% reporting knowledge about where the nearest shelter is located and 68.09% reporting having an electric plant. However, it is evident that a portion of households remained unprepared in this regard for the possibility of another natural disaster. Access to food was an issue faced during the hurricane, but most households (53.26%) reported that in the event of another natural disaster they did not foresee food access being an issue. Many (58.24%) were able to access potable water mostly through purchase or through donation (46.15%). Lastly gas stoves were the most frequently used tools (98.9%) for cooking following the hurricane.

Overall, people were relatively unprepared for the hurricane and many still faced stress and anxiety over the its occurrence. While many households now reported feeling better prepared for natural disasters, a large portion still faced uncertainty about what a future natural disaster might mean. Unreconciled damages to homes with little foreseeable means for remedy over a year following the hurricane was just one sign of the difficulties still faced. In interactions with individuals in the community, it was clear that people wanted to remain optimistic about the future, but overall were generally uncertain about how another disaster might affect them. Although the percentages increased for people reporting that they had a plan in the case of another natural emergency, sixty-one people reported a desire to have educational workshops on preparation for natural disasters. Further, although no questions were asked about how people foresaw communicating in the case of another natural disaster, sixty-two people reported a desire for workshops on how to communicate during emergencies.

With the data analyzed and reported, we will be using this information to prepare capacity building workshops which we will then be returning to implement in March. Talk of the hurricane brought on strong emotions for many of the community members that the data collection team interacted with. With the memory of the hurricane still very salient, this presents an opportunity to equip and empower households with greater confidence about how they can prepare for and respond in the event of another hurricane. Seventy-seven people reported that they felt more connected to their communities since the hurricane, and eighty-four people reported a desire for their communities to be even more united. This desire for stronger community bonds can be an opportunity to assemble community members around the common goal of becoming more resilient and I look forward to continuing to work on this project.

Ekta Paw & Berje Shammassian

Assessment of the Trauma Care Landscape in Vietnam, Ho Chi Minh City (Field Research)

Academic Advisor: Abdulgafoor Bachani & Amber Mehmood

Johns Hopkins Faculty Affiliate: Abdulgafoor Bachani

Field Counterpart: Cuong Pham

Location: Vietnam

Injury is one of the greatest contributors to the global disease burden with its greatest impact in low- and middle-income countries. In Vietnam, road traffic injuries are one of the most frequent causes of death. A retrospective review



of death certificates found that injuries lead to 11% of all deaths between 2005 and 2013 with road traffic injuries the most common.¹ Due to this burden, the major aim of our project was to conduct a qualitative analysis of the trauma-care continuum in Hanoi, Vietnam, which involved an examination of pre-hospital, hospital and post hospital care. This was achieved by travelling to Hanoi, Vietnam for three weeks from December 2018 to January 2019 in collaboration with the Johns Hopkins International Injury Research Unit (IIRU) and Hanoi University of Public Health (HUPH). To achieve our aim, we discussed the perceptions of the trauma care system and functioning with people at multiple levels, including community members, health care providers, health care administrators and government officials to determine

how trauma care functions. Ultimately the purpose of conducting this analysis is to determine areas for potential improvement. This information was collected by conducting in-depth interviews and focus group discussions. Participants for in-depth interviews were drawn from those who were in hospital leadership, either at district hospitals or large trauma centres, the Ministry of Health, the Ministry of Labor Invalids and Social Affairs, the National Traffic Safety Committee, the Hanoi Emergency Response Center, and the World Health Organization. The focus groups included various community stakeholders and members of the public of various ages and occupations.

We collaborated with the Hanoi University School of Public Health, Center for Injury Policy and Prevention Research (CIPPR) who provided invaluable logistical support. Members from the center scheduled and coordinated the interviews, while faculty provided experienced translation services. Specifically, Mr Nguyen Thanh Long scheduled both the in-depth interviews as well as focus groups coordinating with various groups. Observations in emergency departments and tours of hospital and surgical facilities were also organised to help understand the process of trauma care better. Dr. Le Thi Kim Anh provided in-person translation for interviews which were conducted in Vietnamese. Without the support of the center, our project would have been incredibly difficult to complete.

Although we are in the process of completing the thematic analysis, some preliminary themes have already been identified through our interviews. One of the major themes reiterated by many interviewees was the problems associated with prehospital care delivery in Hanoi. Most interviewees discussed how the function of emergency services was limited due to significant traffic in the city. A number of ministry officials discussed that this was a difficult problem to solve given the design of city roads, population density of Hanoi and lack of significant public transportation infrastructure. In addition to the traffic, many interview participants noted that the public Emergency Medical Services capabilities could be improved through increased resource allocation. In relation to this, a number of interviewees noted there was minimal coordination of care regarding trauma patients. This included between the public and ambulance services, between various ambulance services and between ambulance



services. A second major theme noted in a number of interviews was the effect of the recently implemented government decision to transition all public institutions, including hospitals, from publicly funded entities to being financially autonomous institutions. As this was a recent paradigm shift, there was some disagreement as to the potential effect that this may have on the trauma care system.



Overall, the project provided an initial overview to the needs of the trauma care continuum in a transitioning health system. We hope this research creates an avenue to direct effective health system interventions.

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Emmanuella Salia, Sarah Muharomah & Viraj Ambalam
Evaluation of Measles Surveillance System in Ashanti Region, Ghana Project Summary (Field Research)

Academic Advisor: Saifuddin Ahmed, Pamela Donohue & Alain Labrique

Johns Hopkins Faculty Affiliate: Aruna Chandran

Field Counterpart: Alberta Biritwum-Nyarko

Location: Ghana

Surveillance is a key part of health systems in developed and developing countries alike, and consistent with the motto of the Bloomberg School, it has the power to save lives - millions at a time. With surveillance activities being such a crucial facet of public health, it is imperative to conduct periodical evaluations of the same, in a bid to strengthen the system.

In the past decade, Ghana has successfully initiated a national campaign for measles-rubella vaccination and vitamin A supplement, as a part of the aim to eliminate measles in the country. For perspective, their successes can be measured by the significant fall in mortality due to measles nationally – from 155 deaths per 1000 live births in 1988, to just 52 per 1000 in 2017. However, to achieve elimination of measles, strengthening of surveillance processes are necessary - in conjunction with other interlinked strategies such as increases in measles vaccine coverage, and efficient use of findings to direct future program actions.

As students of the MPH program, the three of us were given the incredible opportunity to evaluate the infectious disease surveillance system in the Kumasi Metropolitan Area of Ashanti, Ghana over a two-week period. Our primary focus was the functionality of surveillance operational for the viral disease measles in the region – and to produce a report detailing the same. For Emmanuella, it was an opportunity to give back to the same health system that had trained her – whereas for the other two members of the team who had never previously been to Africa, this was an opportunity to see how healthcare systems operate in the developing world,



Picture 1. Komfo Anokye Teaching Hospital, Kumasi

outside of their home continent of Asia. Prior to our departure, under the guidance of our faculty affiliate Dr. Chandran, we developed an integrated tool based primarily on the 2001 CDC surveillance guidelines, constructed an interview guide, and familiarized ourselves with the domains of the surveillance system.

At our project site in Kumasi, we conducted interviews with numerous stakeholders across levels of the surveillance system. The interviewees included public health and community nurses, heads of regional

metropolitan health directorates, public and private pediatricians, disease control officers, data managers, laboratory staff and teaching hospital staff – in a bid to develop a complete picture of the surveillance system. With all three of us being healthcare professionals, the interviews conducted with stakeholders gave us unrivalled insight into the challenges in managing a health system; and the vital roles of the cogs operating quietly in the backdrop.

These interactions helped us understand what it means to work in an environment fraught with the logistical and resource challenges considered commonplace in developing nations - as well as the methods and soft skills necessary to foster good working relationships in only a brief window of time. Our report detailing this evaluation represents the aggregated findings from these interactions and stakeholder interviews.

Having applied for the field appearance award as a group, it was a deeply valuable experience to collaborate with fellow MPH peers and to benefit from the diversity of disciplines and backgrounds that each of us contributed to the team. Despite our largely medical backgrounds, each of us contributed a unique perspective to the functionality of health systems. Through our discussions and debates, we were able to reflect on the shortcomings and successes of organizational institutions, and how we may improve upon their efficiency and scope.

Arguably the best part of this experience were the warm-hearted locals of Ghana and our time spent together as a team. Several of the individuals we met genuinely wanted to work for the betterment of their society, to the extent that they were completely upfront about the faults of the system - both at a systemic as well as individual level, and the need to improve the same. We were extremely impressed with how the healthcare and public health workforce manages to deliver results despite resource constraints.



Picture 2. All of us with Dr. Ruth Owusu Ofori

In conclusion, we believe that the opportunity we were granted thanks to this field experience award, will prove to be invaluable to our professional and personal development over the course of our careers. Whether that may be through the networks and working relationships established through the course of this undertaking, the insights gained in relationship to our future goals or simply expanding our skill sets within the field of public health – this was an experience which we will long cherish.