



HORIZONS OF GLOBAL HEALTH RESEARCH SYMPOSIUM

Presented by The Global Health Program

UNDERGRADUATE POSTER ABSTRACTS

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GREAT HALL, INTERNATIONAL HOUSE

Welcome to the 3rd Annual Horizons of Global Health Research Symposium Undergraduate Poster Session

UC San Diego's Annual Horizons of Global Health Research Conference is a unique opportunity for students to present their research about the diversity of global health work around the world.

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Immigrant & Refugee Health

Stephen Barker, Global Health Major, Revelle College

Deportation Policy and its Effect on Global Health; Focus - Tijuana, Mexico

Since President Obama came into office there have been 2 million deportations. Most of these deportations have been focused on the Latino population. This growing population ends up returning to their country of origin with no money, no identification, and more often than not, no home or shelter. This leads to depression, despair, and a compromised immune system. Studies have shown that regardless of their health in the United States, once a person becomes deported they become at risk status for major health problems. This ranges from depression and drug addiction to HIV and tuberculosis. If this population continues to grow at this rate so will bad health outcomes until eventually these diseases begin to transcend borders and become a problem that the United States both causes and suffers from. To understand how deportees end up at risk for developing health problems you must first understand how deportation policy is enforced in the United States. You have to see what it does to separate families and stigmatize populations, what populations are targeted for deportation and what is Mexico doing to accommodate this growing population. The goal of my research is to understand how deportation policy creates health disparities that will ultimately come back to harm the health in the United States.

Hye Young Choi, Global Health/Biochemistry & Cell Biology Double Major, Sociocultural Anthropology Minor, Warren College

Crossing and Passing: Re-contextualizing the Violence of Borders

Transgender and undocumented immigrants have difficulty accessing medical services and suffer from health disparities due to exclusionary policies and practices in health care. In order to navigate structurally violent systems delineated by borders of gender and geography, transgender and undocumented immigrants engage in particular relationships and behaviors to “cross” and “pass” into benefits of inclusion and citizenship. Although assimilation may constitute its own form of violence, failure to cross or pass has direct consequences on the

health and lives of migrant bodies. Thus facilitation of crossings and passings can temporarily protect the health and lives of transgender and undocumented individuals. However, when trauma from the violence of borders cannot be re-contextualized or distanced through crossing and passing, the ultimate consequence may be death.

The impetus for this paper arises from participatory observation during fieldwork conducted at Asian Health Services, a primary care community health clinic in Oakland Chinatown. Fieldwork constituted helping produce the clinic’s first transgender patient care protocol, in which the first connections between the experiences of transgender and undocumented immigrants were realized.

This comparative essay aims to explore: 1) the ways in which borders compromise the health of transgender and undocumented people; 2) how transgender and undocumented people navigate these borders and other forms of structural violence; and 3) how the medical community can facilitate crossings and passings to protect and promote health of marginalized identities. Analyses is situated within the personal viewpoint of an undocumented cis-gender woman.

Serena Dunham, Global Health/Public Health Double Major, Healthcare and Social Issues Minor, Marshall College

Adapting ACE Scores to the Experiences of Syrian Refugee Children

Background: Adverse childhood experiences (ACEs) are defined as traumatic experiences that occur in childhood that a person remembers even in adulthood. This study was conducted specifically in the US but these adverse childhood experiences are faced around the world. Syrian children are the most vulnerable to the harmful, complex and adverse consequences due to the trauma and struggles they experience fleeing to and growing up in refugee camps or informal settlements. The trauma and difficulties faced by the thousands of children seeking safety and asylum in the current global refugee crisis are at risk for developing similar poor health consequences as seen by the adults in the US ACE study.

Aims: The purpose of this project is to apply the idea of Adverse Childhood Experiences (ACE) Scores to humanitarian work by focusing on Syrian refugee children. A comparison of both the factors in ACE study to Syrian refugee experiences will be made. Another comparison of

Palestinians and Syrians refugee experiences will be made in order to hypothesize health outcomes in adulthood.

Methods: A literature review was conducted using search engines NCBI PubMed, Web of Science, and Google Scholar as well as UNHCR and WHO website. Sources were found by using the search terms: Syrian children, refugee experiences, Syrian refugee health, Syrian refugee host country, ACE Study, Adverse childhood experiences, Syrian refugee mental health, Syrian refugee economic effects, Syrian refugee social effects, and Palestinian adult health.

Results: Analysis of currently collected sources is in progress but initial findings suggest refugees face similar lifestyle diseases and social outcomes as seen in the ACE study. Once results are collected and analysis is completed an ACE pyramid will be rebuilt that is tailored to Syrian refugee experiences.

Conclusions: Following analysis of sources conclusions will be drawn. Based on conclusions recommendations will be made for preventing poor health outcomes in Syrian refugees and on ACE Scores scalability for humanitarian work.

Group Submission:

Megan Ludington, Public Health Major, Global Health Minor, Eleanor Roosevelt College

Ruby Parra, Biochemistry & Cell Biology Major, Anthropology Minor, Revelle College

Farah Rahman, Human Biology/Global Health Double Major, Revelle College

Does a Family history of COPD Decrease the Rate of Indoor Smoking among Palestinian Refugees in Amman, Jordan: A Cross Sectional Study

Background/Significance: Chronic Obstructive Pulmonary Disease (COPD) is the third leading cause of death in the U.S. and fourth leading cause of death globally, making this non-communicable disease of critical importance for the health of future generations. Jordan has a particularly high rate of smoking and our research questions looked at possible protective factors against smoking in this population.

Aims: This paper addresses the question of whether a family history of COPD would decrease the rates of indoor smoking among the Palestinian

refugee population in Amman, Jordan by comparing the rates of smoking and allowing smoking in the house to those with and without a family history of COPD. We hypothesized that those who have a close family member who was diagnosed with COPD will be more aware of the dangers of smoking, and therefore would not smoke, and not allow smoking in their households.

Methods: A total of 639 surveys were completed at four different refugee clinics in Amman, Jordan. These cross-sectional surveys included five sections, and asked questions regarding demographics, medical history, risk factors, physical activity and nutrition, and mental health. Our study focused on the answers to five of these questions, related to family history of COPD, smoking, and attitudes surrounding smoking. We looked at the odds ratios, prevalence ratios, and chi-squared tests to determine significance between having a family history of COPD and smoking behaviors and attitudes.

Results: We found protective associations in nearly all of our analyses, although not all of our findings were statistically significant. It was found that the odds ratio (OR) for having a family history of COPD and allowing smoking in the household was 0.71 (p-value=0.035), furthering our hypothesis that having a family history of COPD decreases smoking behaviors. This finding was even further intensified after stratifying by gender, as females who had a family history of COPD were 55% less likely to allow smoking inside the home (OR=0.45, p<0.001).

Conclusion: Our findings support our hypothesis, showing evidence that as the long term health effects of smoking slowly start to appear, people will increasingly change their smoking behaviors.

Priscilla Naseery, Global Health Major, Warren College

Health Barriers and Morbidity of Afghan Refugees

Aims: The ongoing instability of Afghanistan has pushed thousands of its people to submit to the possibility of better opportunities in countries throughout the world. War with the Russians and the United States demolished the social, political, and economic sectors of Afghanistan creating one of the largest internally displaced and refugee populations. Pakistan and Iran were the two main recipients of Afghan refugees, but growing prejudices and poor living conditions have either sent people back to Afghanistan or westernized countries. This paper will focus on

the type of health barriers that prevent the afghan refugees from receiving the care they need and the possible solutions to combat them in the countries of Pakistan, Iran, Australia, and the United States.

Methods: Analysis and comparisons of peer reviewed anthropological and articles, several countries refugee and immigration policies, healthcare policies and systems, and the history and transformation of afghan refugees.

Results: The United States offers programs to help Afghan refugees them with the transition with acculturation classes, housing, food and healthcare assistance. Other countries such as Iran and Pakistan do not offer the necessary protection or rights to help the refugees make a successful transition into their society. Another country worth noting is Australia, who offers great benefits to their citizens but has created such a strict process for entry that leaves its refugees in peril. They are often subjected to prejudices, few resources, and substandard living conditions as well as violence from within and outside of their refugee community. Women and children are often subject to the most violence including rape and abuse. Without rights and protection the women often do not have anyone to turn to for help and it becomes all too common. Men who were once providers are not able to provide for their families in the refugee camps and even if they are able to they do jobs that provide only a small amount of money for their families. The camps are the most dangerous places to be as people are overwhelmed with anxiety, depression, and other mental health issues. The large number of people living so near to each other makes communicable disease run rampant and since there is barely any food, water, and healthcare, the people are left in a helpless situation.

Conclusion: Amidst the refugee crisis among other populations, it is important to continue to research and analyze the physical, mental and social health issues that the Afghan refugees face as the largest population of refugees in the world. In order to improve the health and their transition to Pakistan, Iran, the U.S. or Australia, an analysis of the lifestyles and health of the incoming refugees needs to be assessed by studying what they experienced elsewhere and by evaluating any barriers they face when they arrive to a new country.

Alisa Ochoa, Global Health Major, Eleanor Roosevelt College

Obesity: An Examination on How Acculturation and Sociocultural Influences have dissolved the Traditional Cooking practices and Dietary Intake of Immigrant Latina's to Mirror a Western Diet

Background: Obesity is one of the biggest health challenges faced among Hispanic and Latina women populations. Diabetes and heart disease the top two leading causes of death among Hispanic women can be attributed to diet-related behaviors (Tienda et al, 2006). Therefore, research on the relationship between acculturation and cultural differences is relevant and important to the field of public health as the U.S immigrant population continues to grow. Exploring obesity in relation to the process of acculturation is highly relevant to the future public health planning of the United States because cardiovascular disease is still the leading cause of death in the nation. Moreover, Latinos are the largest ethnic minority group in the country and they suffer from a disproportionate burden of obesity. Also, the population of Latinos in the U.S. is largely composed of immigrants illustrating the importance of acculturation research on Latino health. Despite the knowledge on the increasing rates of obesity among Latinas, little research has been conducted on what has contributed to the high prevalence of obesity among Hispanic women. Therefore, it become necessary to evaluate not only the eating habits and behaviors of this population but how acculturation may play a central role in the immigrant and future generations of Hispanic women.

Aims: This study aims in identifying and analyzing how acculturation, assimilation and cultural differences have dynamically resulted in higher rates of obesity among Latinas.

Results: The study has concluded that the higher rates of obesity prevalent among Latinas supports the hypothesis that obesity is not only a result of individual diet and weight related behaviors but a by-product of their social environment as they assimilate and acculturate into American life. The "Latino paradox" stipulates that Latino immigrants who first immigrated to the United States have better overall health than all other immigrants' declines the longer they remain in the U.S. Furthermore, studies concluded the relationship between acculturation level and obesity. The more acculturated Latinas are the more likely they are to be obese and at an increased risk for cardiovascular disease and

diabetes. On the other hand the less acculturated Latinas tend to have better health and a lower BMI despite a lower level of education.

Conclusions: Few interventions have been dedicated to understanding the effect acculturation and assimilation have on the health related behaviors leading up to higher rates of obesity among Latinas. A better understanding of the relationship between acculturation, the environment, and assimilation is necessary if not vital to the improvement of weight and health among Latinas. This research illustrates the importance of creating a culturally tailored intervention for Latinas that takes into account their cultural differences, their status as immigrants and their social environment.

Erica Settleowski, Global Health Major, Warren College

Varying Dynamics of Health Outcomes in Low-income Latinos within Free Clinics

Abstract: The UC San Diego Student Run Free Clinic is a safety-net clinic whose purpose it is to provide healthcare to underserved communities within San Diego. Three connecting studies investigated health in relation to food insecurity. The first study identified 74% of the patient population as being food insecure. The second study, which is still on-going, provides monthly food boxes to diabetic patients and examines whether or not health food supplementation can have positive effects on health outcomes. Because 3 out of 4 patients currently experience food insecurity, the final study addresses the possible barriers to access for varying social programs to understand one part of why these health outcomes exist. Overall, the research done within the clinic examines the many variables that are involved in the health outcomes of low-income Latinos within these safety-net health clinics.

Methods: Patients were screened for food insecurity from January 2015 to July 2015 during their scheduled medical visits. Patients were screened using the 6-item United States Department of Agriculture Food Security Survey. Following screening, patients were given information on local food resources. Patients were screened for barriers to access through short interviews from July 2015 to August 2015. Diabetic patients, after being enrolled in the program, attend monthly nutritional classes and receive a box of groceries and fresh produce. Overall health indicators are monitored throughout a six-month period.

Juan Trenado, Global Health Major, Marshall College

Mexican Immigrants, Deportation, and Mental Health

Background: Citizenship has been at the crux of immigration studies both for its legal aspects and social implications. Citizenship is defined as the status, and or recognition, by governing bodies of person(s) as members of a state in accordance to law. In the United States the legal process to attain citizenship can be arduous to maneuver, not only because the US sees the largest influx of immigration in the world, but because one can obtain legal status using a myriad of processes. States like Arizona, Texas, and California see extraordinarily high levels of migrant populations predominantly from Mexico, in fact, California's San Ysidro Port of Entry is considered to be the busiest land border in the world. Thousands of people cross both legally and illegally via this and other

entry ports into the US-Mexico border every day for work, tourism, and education. In recent years, the US government has sought to crack down on illegal entries into the country by implementing several control mechanisms to prevent entry, and by deporting those already in the country without legal status. Illegal immigration raids have been used as a way to deport a multitude of them, leaving thousands of families displaced, particularly on both sides of along US-Mexico border. This results in families with members who hold several different forms of immigration status; some are US citizens, others undocumented immigrants, and others might hold a visa or some form of temporary legal stay permit.

Methods: The presentation will focus on various studies across interdisciplinary fields including, but not limited to; sociology, anthropology, medicine, psychology, and philosophy. Studies focus on history of migration patterns, longitudinal studies on immigrant workers, and in-depth interviews.

Conclusions: The current immigration system is one that targets vulnerable immigrant communities, which results in mental health problems and higher incidences of disease.

Mental Health & Substance Abuse

Safinah Chau, Global Health Major, Marshall College

Recontextualizing ChAmerican Mental Health Reform

The lost Kingdom of Champa flourished from 192AD until 20th century. The Champa Kingdom transformed into a minority on its own land of Indochina, now mostly Vietnam after centuries of ethnic and religious cleansing. This cleansing continued in the Vietnam War and Cambodian genocide where both parties pushed Cham into the borderlands between the two, which is recognized as the invisible Cham Genocide that led to the state's extinction. Survivors living in the region ironically claimed the perpetrator's ethnicities of Cambodian or Vietnamese to escape persecution, internalizing that Cham culture was undesirable resulting in intergenerational self-hate. Survivors (population zero) who escaped to other parts of the world reclaimed other cultures as their own. The invisible genocide of Champa within the meagerly recognized Cambodian Genocide and internationally rebutted Vietnam War attest that the Cham ethnicity is unconsciously invisible. This level of invisibility is toxic to both openly and secretly Cham identified worldwide who seek comfort in the privilege of opportunities in their transnational Cham cultures. It is true that Cham have no one true land but since culture is not static, Cham culture and therefore its people are still thriving.

The purpose of this thesis is to reclaim the Cham identity and utilize biomedicine towards mental health inclusion for first generation Cham Muslim Americans (FGCMA). FGCMA are translators, lawyers, doctors, chauffeurs, social workers, teachers, politicians, chefs and most importantly the support system for the entire community. FGCMA are naturally taught Cham culture at home yet are taught to be American outside of the home. This constant internal conflict between pleasing elders and living the very American life of privilege they immigrated for internalizes heartbreak, mental breakdowns, fear, anguish, self-pity, self-hate, self-harm, as normal. These conflicts are also seen in survivors of the Cham Genocide Research into mental health for FGCMA is inconclusive due to a lack of interest after the kingdom's documented demise; FGCMA are compared to first generation Cambodian Americans, the children of survivors of the Cambodian Genocide. This

thesis explores borne trauma in the children of Cambodian genocide survivors in Long Beach, California to re-contextualize genocide and borne trauma as reminiscent of the constant internal conflicts of FGCMA. This will initiate the healing process in hopes of rekindling Cham culture as a beautiful flame to be celebrated rather than an undesired flame that causes community-wide, intergenerational and invisible turmoil.

Lydia Fong, Human Development/Global Health Double Major, Eleanor Roosevelt College

An Analytic Approach to Mental Health in Asian Adolescents

Mental health in Asian communities is interesting in that it is largely a taboo subject. People with mental health conditions are typically shunned, hidden away, or given treatments completely unrelated to the actual issue. Even outside of Asian cultures, mental health is often neglected among practitioners, researchers, and funders of global health efforts. The unique challenge of mental health in the global health perspective is although it is an urgent priority worldwide; it often attracts little attention among practitioners, researchers, policymakers, and funders.

Mental disorders are often categorized separately from medical disorders affecting other parts of the body. Physical ailments are routinely and widely accepted as objective realities, many people consider symptoms of neuropsychiatric disorders as subjective experiences and therefore less credible in the medical sphere. Mental distress is evident along a gradient of suffering that is not often as easily recognized as an obvious illness or included within typical categories of biological disease. Most people are more familiar with mental health issues in developed countries, where there is a higher incidence of depression and prescription drugs. Recently, there has been a rapid rise of documented mental health conditions, especially depression. This suggests that the U.S. health system may be medicalizing normal sadness. The drastically increasing medicalization of mental health demonstrates the need for critique on how modern health systems can be affected by economic and political interests. For example, pharmaceutical companies profit by supporting research that expands the use of psychotropic drugs.

Mental illness is one of the largest causes of unchecked suffering in the U.S. and throughout the world. Sizable ethnic and socioeconomic disparities shape patterns of help-seeking, access to care, and therapeutic outcomes for mental disorders. In Asian communities, patients suffering from mental health issues tend not to even seek professional help. Asian cultures minimize mental problems therefor affecting rates of seeking professional care. Even if some do seek professional help, they often do not stay in treatment for long. In 2004, the World Health Organization found that East and Southeast Asia had the world's highest rate of neuropsychiatric disability per capita.

Certain demographics, especially vulnerable groups such as women and adolescents, are more susceptible to mental health issues and report less help-seeking behaviors despite having (albeit less visible) symptoms of neuropsychiatric distress. Harmful early life experiences such as malnutrition, lack of education, child labor, and child prostitution all may increase risk of chronic mental health disorders among youths.

According to the WHO, there is an estimated between 10 and 20 percent of children and adolescents that are affected by psychiatric problems.

Suicide rates are often highest among young people.

The mentally ill currently are neglected and in order to reverse that, it would demand substantial resources and political commitment. Evidence suggests that mental health care can be effectively and inexpensively integrated into health systems despite implementation barriers. With Asian populations, cultural and social sensitivity would need to be implemented by psychologists working with a demographic that is highly reluctant to professional treatment.

Sam Gurevich, Biochemistry & Cell Biology/Global Health Double Major, Revelle College

Correlates of Stigma among Patients Attending a Free Clinic in Tijuana

Background: Stigma is not only a proximal cause of health inequalities among populations but can also adversely impact health at an individual level. At the Health Frontiers in Tijuana (HFiT) free clinic, many patients are all too familiar with the detriments of having to endure stigma insofar as their health suffers on a regular basis. Certain undesirable characteristics are more likely to be stigmatized by a given society,

though it is not well understood what these exact traits are in the context of Mexico.

Aims: The goal of this study was to identify which factors among vulnerable populations in Mexico are independently associated with incurring various manifestations of stigma.

Methods: Data was taken from a subset of a comprehensive survey conducted at HFiT in 2013. Bilingual interviewers administered questionnaires in English or Spanish in private rooms using password-encrypted surveys which were programmed with Qualtrics© software on Internet-equipped tablets. To ascertain the various forms of stigma they faced, patients were asked about instances of feeling rejected by society at large, being threatened and harassed by law enforcement, and being denied housing and employment opportunities. These individual stigmas were compiled to develop an "All Stigmas" category, which was analyzed via negative binomial regression using STATA.

Results: Factors very strongly correlated ($p \leq .01$) with "All Stigmas" were: speaking an indigenous language, being homeless, being jailed in Mexico, moderate depression, and having no friends or family in Tijuana. Factors strongly correlated ($p \leq .05$) with "All Stigmas" were: having tattoos, having traded sex months in the last 6 months, and enrollment in Seguro Popular, Mexico's public health insurance.

Conclusion: Each category determined to be associated with "All Stigmas" has important implications for Mexico at the individual, societal, and policy level. It is necessary to design interventions and policies that are cognizant of these factors; ultimately, this study represents an important step in mitigating the effects of stigma on patient wellbeing and overall health.

Briana Kusuma, Global Health Major, Marshall College

How Culture Affects Mental Health Treatment-Seeking Behavior among Chinese Americans

Among all racial groups in the United States, Asian Americans have the lowest rates of seeking and utilizing mental health treatment. Chinese Americans, who comprise the biggest ethnic group within the "Asian" label, are of particular concern. Considering China's history of colonialism and influence on the continent of Asia, this thesis was written to explain the causes of this disparity in mental health treatment

between Asian Americans and other racial groups by focusing on Chinese Americans in particular. Western and Chinese conceptions of mental illness, along with accounts of Chinese/Asian Americans in U.S. mental health facilities, were examined in a literature review. Due to different medical foundations and systems, Western and Chinese constructions of mental illness vastly differed from one another. Chinese cultural values and customs conflicted greatly with Western psychology and mental health treatments. Among these were patient units (individual in the West versus the entire family as a single patient among the Chinese), different modes of symptom expression (psychological in western psychology versus somatic among the Chinese), different interpretations (mental illness criteria in the West versus lack of existence among the Chinese), treatment options (pharmaceuticals and psychotherapy in the West versus traditional herbal medications among the Chinese), and stigmatization (becoming more open in the West versus invisibility among the Chinese). It seems that the cultural clash for Chinese Americans, depending on how immersed the patient is in American and Chinese cultures, is an important factor in determining whether they utilize and/or continue mental health treatment.

John Nichols, Physiology & Neuroscience/Global Health Double Major, Sixth College

Chasing the Dragon: The New England Heroin Epidemic and its Origins in Opioid Pain Medication Abuse and Addiction

The heroin epidemic in the northeastern United States has its roots in the use and abuse of opioid pain medication. Over the past two decades, liberalization of state medical board laws governing the prescription of opioid painkillers for the treatment of chronic pain have contributed to the dramatic rise in opioid painkiller prescriptions. The death rate from opioid overdoses in the United States has quadrupled over the last 20 years and shows no sign of decreasing. Abuse of these drugs serves as a gateway to heroin abuse: nearly half of surveyed people who inject heroin reported abusing prescription painkillers before starting heroin. The number of heroin users has doubled from 2002 to 2012, a phenomenon that is intimately linked with the rise in opioid prescriptions and sales. Illicit opioid use is a grave threat to individual and public health. Heroin abuse is associated with fatal overdose, spontaneous

abortion, and infectious diseases like hepatitis C and HIV. Chronic users can also develop collapsed veins, abscesses, and liver or kidney disease. What was once considered a problem of the nation's urban centers is now a problem gripping its suburban and rural areas alike. Quaint fishing villages and quiet coastal towns, the likes of which New England is known for, have become ground zero for a deadly opioid epidemic that largely skews young and white. A combination of expanding Prescription Drug Monitoring Programs, increasing overdose education, and promoting access to highly effective medication-assisted therapies are the safest, most effective, and most cost-efficient ways of addressing this public health crisis.

Areana Park, Global Health Major, Eleanor Roosevelt College

Cultural Competency of Drug Rehabilitation Programs for Native Populations in the U.S.

Background: Lack of access to resources and proper social care leads to a variety of global health problems including substance abuse and mental health issues. Westernized medicine fails to address the cultural approach and needs of Native people in terms of their healthcare. For the Oglala people living on the Pine Ridge reservation, there are very few opportunities and a huge lack of resources. With poverty and a lack of resources come a variety of global health issues such as substance abuse and mental health issues. The history of racism and genocide of the Oglala people have set up a system of structural violence that further adds to the barriers to access to care. In contrast to the stagnant economy of the Pine Ridge Indian Reservation, the booming tourism industry drives the economy and dictates the division of resources in Hawaii. The island of Oahu in particular attracts a lot of visitors every year who spend millions of dollars. However it is very interesting to note that this industry drives the cost of living to one of the most expensive in the United States. On the Waianae coast on the island of Oahu, there are more than 7500 families who are homeless, living on the beaches and streets, many of their number identify as Native Hawaiians.

Aims: The purpose of this study was to understand the narrative of culture and history of each respective native population. In the context of the narrative, the quality and ease of access of rehabilitation programs for drug abuse was assessed and analyzed in each geographical location.

Methods: Field Experience was gained through service-learning Alternative Breaks trips. The cultures of the population of Oglala Sioux at the Pine Ridge Indian Reservation in South Dakota and Native Hawaiians in Waianae, Oahu were studied. Efficacy of local substance abuse rehabilitation programs were analyzed in the context of historical violence and access to health care resources specific to respective geographical locations of each population.

Results: Drug Rehabilitation Programs with significant cultural competence reported higher rates of patient satisfaction, higher rates of retention, as well as lower rates of recidivism and relapse of drug abuse.

Conclusions: Findings support hypothesis that there are barriers to social health care for indigenous peoples in the U.S. Furthermore, findings demonstrate the need for culturally appropriate hybrid programs that combine traditional Western behavioral rehabilitation and cultural practices.

Karla Verdesoto Global Health Major, Eleanor Roosevelt College

Mental Health and Homelessness

My paper is concerned with the relationship between homelessness and mental illness. I hope to find a correlation between mental illness leading to homelessness or homelessness leading to mental illness. This research is important because people with mental illnesses are already a marginalized group. If they do not get the services they need it could cause more adverse effects in their lives. My research methods are analysis of literature focusing on homelessness and mental illness to see if there is a correlation between the two. My research is leaning towards mental illness leading to homelessness. The central problem here is that there are many areas in that global mental health needs to scale up. A correlation between mental health and homelessness would suggest that this is an area that deserves global mental health attention.

Women's and Children's Health

Group Submission:

Serena Dunham, Global Health/Public Health Double Major, Healthcare and Social Issues Minor, Marshall College

Emma Jackson, Global Health Major, Revelle College

Describing Girl Child Marriage: A Systematic Review of Literature

Background: Girl child marriage (GCM) is a global human rights violation, which leads to compromised social, economic, and health outcomes for girls and their children. Currently, a database of GCM research is nonexistent. A comprehensive review of literature will provide a foundation for future research and policy development.

Purpose: The purpose of this study was to assess and describe the current state of GCM research.

Methods: The review of literature was conducted using search engines NCBI PubMed, Web of Science, and Google Scholar. Sources were organized by Prevalence/hotspots, Reproductive Maternal/child Health Effects, Other Health Effects, Social Effects, Interventions with and without Outcomes, Reports, and Gray Literature; and were excluded if published before 2005. For each assessed region and nation, GCM prevalence was compared to the total number of sources.

Results: One hundred eleven sources met eligibility criteria and were included in the review. Of these, 55.8% were peer-reviewed articles (n=62), 27.9% were media sources (n=31), and 10.2% were reports (n=18). Over half (n=36) focused on South Asia; 50% were India-specific. The majority (62.9%) of sources assessed GCM prevalence, with a focus on the adverse health implications thereof. The countries of focus in gray literature differed from those discussed in peer-reviewed articles. The quantity of peer-reviewed articles by region was not indicative of GCM prevalence; areas with the highest prevalence, particularly conflict-affected regions, had the lowest frequencies of research.

Conclusions: Findings demonstrate the need for additional research to determine gaps in literature. Future research should be more focused in areas experiencing the highest burden of GCM.

Emma Jackson, Global Health Major, Revelle College

Into the Light: A Qualitative Examination of Girl Education and Girl Child Marriage in India and Ethiopia

The aim of this project and paper is to examine and understand the benefits and disadvantages of girl's education for married and unmarried adolescent girls and their decision makers in Oromia Region, Ethiopia, and Jharkhand, India, following the implementation of child marriage prevention interventions: Oromia Development Association (ODA) in Ethiopia, and Project RISHTA in Jharkhand. A preliminary review of existing literature was completed to assess and describe the current state of girl child marriage (GCM) research globally and then latent content analysis was utilized to analyze de-identified interviews of married and unmarried girls and their decision makers from both locations. Interviews assessed knowledge and attitude towards GCM and first birth, causes and consequences of GCM, the marriage decision-making process, and the perceptions of the interventions. Out of the 635 codes selected for final analysis, the most commonly cited advantages for girl's education were girl's empowerment (58% n=370, and the sustainment of traditional household roles (21% n=133). Other analyzed themes were the postponement and cancellation of child marriage (8%, n=56) and improved health (7% n=47). The most common disadvantages were the social disadvantages of community exclusion and familial estrangement, (52% n=15) and the disadvantage of burden, financial and distance related. (31% n=9).

The following hypothesis is being investigated: Girl's access to education and the social capital that arise from this accessibility, are instrumental in the delay and prevention of child marriage, and thus instrumental in disrupting the cyclical nature of poverty and gender bias at the community, socio-cultural, and societal levels.

Methods: The first phase of this project was a review of the existing literature on girl child marriage (GCM) from the years 2005 to 2015. Identified sources were categorized into Prevalence/Hotspots, Reproductive and Maternal/Child Health Effects, Other Health Effects, Social Effects, and Interventions With and Without Outcomes. The sources were further categorized into peer reviewed papers, reports, and media. Prevalence of GCM by UNICEF region was compared to amount of existing sources from that area.

The second phase of the project involved the qualitative coding and sub-coding of a set of 210 previously coded interviews of girls ages 13-24 in Oromia, Ethiopia, and Jharkhand, India and their decision-makers post-intervention implementation to analyze the identified domain of Girl's Education within the child marriage context. Girls married prior to age 18 were included and their decision makers, as well as girls whose marriage was canceled or postponed till after age 18 and their decision makers. The Benefits and Disadvantages of Girl's Education was identified as a prominent code within the domain of Girls Education. A codebook was generated and a concept map was created in a dendritic style to highlight the hierarchical structure of themes and subthemes.

Results: The results of latent content analysis on the Benefits and Disadvantages of Girl's Education indicate that the main benefits were girl's empowerment (58%) and traditional roles (21%) and the main disadvantages were social (52%) and burden (31%).

Jamie Katuna, Global Health Major, Warren College

Mobilizing for Women's Rights: Lessons Learned from Chile and Beyond

Aims: To discover factors, conditions, or tendencies that either encourage or inhibit social mobility—especially with regards to women's rights and women's health.

Methods: Explore the literature covering the social and political history of Chile as a template for why a rich, OECD nation lags far behind with women's rights. After discovering possible factors for the condition of women's rights in Chile, compare this case to that of other countries—especially those who have underwent progressive change with regards to women. The methods in this paper include reading the literature on one country extensively, then comparing findings with literature covering other countries as well.

Results: Mobilization (or lack thereof) around women's rights is multifactorial. There are economical forces: Chile is experiencing one of the fastest economic growths on the planet right now, affecting its social environment in ways that keep women from advancing. There are political factors: The quick switch to a coalition style government from a dictatorship prioritized many factors over women's rights, leaving women out of decision-making. There are religious factors: Chile is a

strongly religious (catholic) nation, which is notorious for limiting women's choices. And there are geographical factors: The countries of Latin America do not set a precedent to be progressive on women's rights, thereby allowing Chile to stagnate without international repercussion.

Conclusion: Lessons learned about the rights of women in Chile can be applied to cases around the world. Chile provides a template to display what might inhibit social progression, allowing future interventions to incorporate this information. Focusing on the health of women (and children) is essential for a country's progression. Therefore, studying what limits this mobility is crucial in order to avoid this from happening in the future.

Rabia Meghani, Global Health Major, Eleanor Roosevelt College

Testing a USA Breast Cancer Program in Pakistan: Breast Cancer Health Education Module Receptivity in Pakistan via Religious Avenues

Current research shows that there is a lack of breast cancer education and awareness in Pakistan including students studying medicine. The Pacific Asian Grocery Store Cancer Education program conducted by the Cancer Outreach Team (COT) of UC San Diego resulted in the reduction of breast cancer rates among Asian Pacific Islander (API) women in San Diego. My aim is to replicate this model in Pakistan while implementing the use of religious text for maximum receptivity in Pakistani women. This program will train Pakistani students currently living in Pakistan to be outreach volunteers which allows for breast cancer education to be occurring on both ends of the spectrum: the volunteers and the targeted audience. Brochures used in the outreaches conducted in San Diego have been translated in Urdu, the national language of Pakistan. The brochures as well as the outreaches will include messages from the Quran that discuss the importance of health in order to result in maximum receptivity from the targeted audience. Research has shown the significance and the success of health education that included health-promoting verses from religious texts. By implementing the use of both breast cancer health education outreaches and Quranic verses included in the brochures, my goal is for a reduction in breast cancer rates among Pakistani women living in Pakistan.

Christal L. Quick, Global Health Major, Eleanor Roosevelt College

Birth Abuse and Disrespect as a Global Phenomenon: Incorporating Traditional Practices to Reduce the Abuse of Birthing Women

According to the World Health Organization statement on the prevention and elimination of disrespect and abuse during facility-based childbirth, current research reveals an extremely unfortunate and high prevalence of disrespect, abuse and neglect experienced by women throughout the world during childbirth. During my recent maternal health focused field experience in Uganda I myself witnessed abuse firsthand and decided to further explore this topic which turns out to be widespread at a global level. This poster will examine the prevalence of birth abuse and strategies to combat it, as well as childbirth models that work; models that deliver positive, safe outcomes (both physiological and psychological) for mothers and babies and facilitate bonding and breastfeeding. I combine an examination of current research in the field, case studies and my own experiences (via field notes) of witnessing abuse in an effort to answer the question: "What factors influence the current "global epidemic" of birth abuse and what solutions are most likely to reduce this phenomenon?" As a conclusion, this poster will demonstrate that the incorporation of evidence-based traditional childbirth practices into biomedical care will likely reduce the prevalence of birth abuse and disrespect experienced by woman globally.

Clarissa Wentworth, Global Health/Human Biology Major Double Major, Sixth College

Increasing Cervical Cancer Screening Rates in India by Reducing Barriers to Care

Cervical cancer is the second leading cause of cancer death among women worldwide. However, the deaths from this disease are not distributed evenly; developing countries bear the brunt of the mortality rates with 88% of deaths from cervical cancer occurring in developing countries. Regular screening for cervical cancer saves lives since the cancer can be detected in earlier stages. While the screening rates in the developed world are high, 86% of women in the United States are regularly screened; the rates are extremely low in developing regions of

the world, with India in particular, only 3% of the female population is regularly screened for cervical cancer. My focus is on how to reduce the death rates of cervical cancer in India by implementing effective screening programs. In order to accomplish this, there needs to be a reduction in many of the barriers to care that these women face. By way of using a new approach developed by Trovagene, which detects Human Papilloma Virus or HPV (the viral infection responsible for cervical cancer) within a urine sample, women will no longer have to face any feelings of discomfort regarding the invasive nature of pelvic examination required by existing screening methods. However, more than just a revised screening method is needed in order to reach these women. Another important aspect of increasing screening rates is simply to educate women on cervical cancer in order to spread awareness of the disease and its prevention. Many women in India are unaware of what causes cervical cancer and of methods that they can utilize to prevent it. Women also need to be empowered so that they can take control of their own health, along with empowerment of the community to collectively recognize cervical cancer as an important health issue.

Health Communication/Education

Rozhon Badiozamani, Global Health Major, Revelle College

Global Health Field Experiences

I completed my field experience during the summer of 2015 in Durban, South Africa. Overall, the program afforded me myriad of opportunities that I could never dream of having access to in the United States. With the perks of this loosely regulated freedom as an undergraduate student came serious pitfalls, however. The largest pitfall was understanding that my lack of qualifications was suddenly irrelevant in a foreign country. At one point, a doctor I was shadowing asked me if I wanted to administer sutures to a patient's head. It was at this precise moment that I began to question my purpose on this trip. Was I there to help myself? Or was I there to help the community?

My research is focused on the global health field experiences of my fellow global health majors to better explore these questions of intent and practice. Seeing as how it is a requirement for the UCSD Global Health major, I plan to individually interview the cohort of 30 students from the

Senior Capstone seminar this year. Students will be asked to disclose the location of their field experience (domestic or abroad), pre-departure exposure to their specific field work, any pre-departure expectations, experienced cultural differences and assimilation, work responsibilities, and how the experience influenced their future aspirations in global health. I have yet to conduct this research, but plan to do so by the start of this summer. The aim of my work is to understand the variations, should there be any, amongst field experience programs depending on duration, location, preparation before departure, and depiction of global health work. If appropriate, I will use Claire Wendland's knowledge on "clinical tourism" to further analyze the concept of field experience programs abroad. With all of this information, I would like to encourage specific improvements amongst university global health programs, should they become apparent. My work will include an extensive comparison between higher education institutions in the United States and in Europe that offer a Global Health degree or something similar to it (i.e. International Health, Global Health Science). In order to apply my research to a broader topic, I will emphasize a critical analysis of global health interventions as a whole. I will analyze ways in which humanitarianism, ethics, and institutions contribute to or harm the ideals of global health as a field and as a practice.

Sara Graber, Global Health/ General Biology Double Major, Marshall College

Beyond Pills into Bodies—Perceptions, Pitfalls and Promises of Pre Exposure Prophylaxis (PrEP) in HIV Prevention amongst San Diego MSM

Background: At the onset of the AIDS epidemic, HIV was largely stigmatized as a "gay plague," even medically termed Gay-Related Immunodeficiency Disease. Despite the passing of three decades, MSM still carry the burden of disease and stigma in the U.S., accounting for 63% of all new HIV infections (CDC, 2010). Recent licensing of PrEP, a once-daily oral tablet containing antiretrovirals FTC/TDF has raised much hope of a new HIV prevention strategy. Despite the drug's high efficacy and increasing insurance coverage, very few MSM are currently on PrEP.

Aims: The UCSD PrEPARE2 Study aims to examine MSM's knowledge and perception of PrEP, as well as compare self-perceived and objective risk. The overall goal is to evaluate if providing a tangible risk score affects behavior. I examine if this use of a risk score and categorization of risk groups is the best way to improve proper PrEP prescription and maximize health outcomes or if it runs the risk of oversimplifying experiences and root causes of risk amongst a demographic that has largely been marginalized.

Methods: HIV-negative, at risk MSM were recruited from testing centers in San Diego. Participants were given a survey that assessed baseline characteristics and self-perceived risk (SPR). Frequencies of unprotected anal intercourse (UAI), history of STIs, and shared needle events generated a UCSD risk score. Cohen's Kappa coefficient was used to evaluate the concordance or discordance between SPR and the UCSD measure.

Results: Discordance was found between SPR and the UCSD risk score as indicated by a kappa coefficient of 0.06. 51% of participants underestimated their risk, particularly amongst those categorized as high-risk. Of the 24 participants falling into the high-risk category, 96% (23/24) underestimated their risk, 75% (18/24) of those individuals perceiving their risk to be low. The use of a risk score has the potential to help individuals better actualize their risk, improve practitioner prescription of PrEP, and reduce practitioner bias. Such risk measures; however, fail to account for sociological and historical factors often at the root of risk amongst MSM. Patient perception of the medication, particularly in regards to its associated stigma, as well as practitioner knowledge of PrEP, perception of the patient, and worry of risk compensation are not accounted for.

Conclusions: HIV preventative drug development is not curative on its own. Uptake, prescription and adherence are largely based on perception—perception from that of the patient, the practitioner and the public at large. The degree of underestimation of HIV risk amongst high risk individuals highlights risk perception itself as a barrier to prevention. Increasing understanding of risk and PrEP amongst these individuals could potentially reduce HIV transmission. The use of a risk score can help identify those at risk but needs to be accompanied with better education and contextual understanding both for that of prescribers and patients, particularly if PrEP is to be implemented on a global scale.

Jackie Markt–Maloney, Global Health Major, Eleanor Roosevelt College

Health Care Reform as an Intervention for Equity

Global health interventions are not limited to the distribution of malaria nets by NGOs, the creation of a free health clinic by a university, or even the mandate of vaccinations by the government. Based on extensive research of recent health care reforms in the United States and in Mexico, namely the Patient Protection and Affordable Care Act and the Sistema de Protección Social en Salud, I argue that health care reform is an underutilized form of health intervention which can be used to promote better and more equitable health outcomes. Furthermore, an analysis of reforms in the United States, Mexico, and other countries throughout the Americas suggests that there exists a set of best practices which can facilitate the effective implementation of health care reform for the purpose of creating more equitable health outcomes. Lastly, I suggest that international organizations are a promising resource to both encourage and support to countries pursuing this type of structural intervention. This analysis opens the door to future research into the concept of health care reform as a tool for improving equity in health outcomes, the notion of guidelines for successful implementation, and the role of international organizations in the success of health care reform interventions.

Sophie Michel, Global Health Major, Eleanor Roosevelt College

Understanding Relationships in Healthcare as Reflections of Context and Circumstance

My thesis concerns the role of the healthcare provider-patient relationship in the field of Global Health. I believe that the healthcare provider-patient relationship is the result of the contexts in which it occurs, from the political and economic structures that govern the world, down to the social realities and cultural settings in which relationships in healthcare occur. Therefore, studying these relationships in an analytical manner can allow its observers to learn about the influences that shape health and healthcare in a local context. Using theories and analytical methods when studying healthcare provider-patient relationship functions as a rapid-results test to those working in the Global Health

field. My thesis is relevant to the field of Global Health because we are continuously striving to craft interventions, programs, and policies that are evidence-based, meaning that they are tailored to the unique circumstances communities live in. I assert that the healthcare provider-patient relationship is one of the most effective entry points for tapping into these circumstances, because it is as vibrant and ever changing as these circumstances themselves. Using quantitative epidemiological measures like public records, or painstakingly collecting qualitative information through interviews and other measures are resource intensive and time consuming data collection methods that Global and Public Health workers cannot afford to continuously collect for diverse and ever evolving communities. Furthermore, this data is often neither valid nor timely. Therefore, by expanding on existing work by leading medical anthropologists, I propose a pathway for Global Health advocates to learn to analyze the relationships they observe so they may understand the contexts in which these relationships occur, and how these contexts affect the healthcare in the communities they are targeting or working in. By directly tapping into the living and breathing reflections of the circumstances which shape healthcare, Global Health advocates will be able to collect contemporary, relevant, and valid data for any given community quickly and reliably. The methods I used to perform my research included the study of theoretical works on the healthcare provider-patient relationship, which outline how an observer can adopt different viewpoints and consider different influences both within and beyond the hospital or healthcare facility. Furthermore, I expanded on work my medical anthropologists, who make sense of healthcare provider-patient relationships in the political, economic, and social context in which they exist, ranging from the capitalist interest of the world economy all the way down to the interpersonal circumstances that govern interactions. Finally, I also studied case studies from several different countries that document healthcare provider-patient relationships, and attempt to make sense of these relationships. My findings confirm my hypothesis that healthcare provider-patient relationships are indeed incredibly telling of the contexts in which they occur, and that this information should be used in the field of Global Health. More importantly, I hope to use my findings to propose a framework or tool-kit for Global Health workers to use when observing relationships, so that they may extract much useful information from

these observations, and use that information towards building evidence-based interventions. In summary, my thesis is concerned with demonstrating the importance of studying the healthcare provider-patient relationship as a gateway to information about political, economic, social, and cultural influences on health and healthcare, and providing a framework for conducting this analysis and interpretation.

Courtnei Pham, Global Health Major, Eleanor Roosevelt College

Oral Health in Nigeria and Sweden: A Prevention of Oral Disease

Abstract: There is prevalent research that links oral health to chronic disease that affects one's health as an entirety. For instance, it has been shown that those with moderate or advanced gum or periodontal disease are quite likely to have heart disease. Oral health can provide warning signals for other diseases and serious conditions. Knowing that oral problems can be preventable by maintaining adequate oral hygiene and having dental healthcare, it is key to promote education of oral healthcare in regions that suffer from oral disease. Residents of Nigeria's rural areas and Finnish immigrants who reside in Sweden all face a deterioration of oral health. Although both countries have entirely different healthcare backgrounds and environments, both populations from the two countries face similar oral health problems that are due to similar reasons. For instance, in both cultures, oral hygiene is considered to not be important at all. Ultimately, social and cultural components in the African and Swedish immigrant populations are preventing them from achieving sufficient oral health and leading to larger risk in chronic disease. It is important to raise awareness of the importance of oral health in these regions and to implement education programs that will aid in the reduction of such risk.

Meghan Yap, Global Health Major, John Muir College

Analysis of Campus Sexual Assault Policies and Services at UC San Diego

During the course of a 4-5 year undergraduate career, one in five women will experience a sexual assault (SA). A survivor who feels unsupported by her university is more likely to develop a severe psychological complication, affirming the need for effective SA policies. This study

aimed to identify best practices and policies to intervene in cases of campus SA, based on recommendations from coalitions against SA: the California Coalition against Sexual Assault (CALCASA), and the Rape Abuse Incest National Network (RAINN). UCOP and UCSD SA policies were analyzed for adherence to coalition recommendations and found to be inconsistent in multiple categories. To improve adherence, UCOP and UCSD policies must expand reporting options, create evaluation strategies for SA policies and services, require employment of trauma counselors, and partner with local SA resource centers. Additionally, minimum standards are needed for academic accommodations, CARE service centers, and SA awareness training.

Kimberly Ye, Global Health/Management Science Double Major, Sixth College

The Best of Both Worlds--The Synergy between Eastern and Western Medicine

Traditional Chinese medicine is a form of Eastern medicine that roots back to thousands of years of Chinese history and culture. It is a holistic healing system based on conceptual frameworks aiming to restore the harmony and balance between the mind and body in order to preserve health. It largely relies on individualized treatments and clinical observations that strive to treat the complete health of an individual – the state of complete physical, mental, and social well-being and not merely the absence of disease. Traditional medicine is integral to many different cultures in the world particularly in locations with limited access to conventional scientific medicine, but the safety, efficacy, and quality of this type of medicine is often questioned. In a national health care system where scientific evidence is necessary to prove the efficacy of a drug or treatment, traditional Chinese medicine is posed with a challenge to prove scientific quantitative value. As complementary and alternative medicines are continuing to grow in popularity, there is an urgency to develop a more relevant and effective way to assess the efficacy of such interactive therapies, such that of acupuncture and traditional Chinese medicine as a whole. The nexus between traditional and modern medicine is the underlying aim to heal the same being that is composed of the body and mind. If traditional Chinese medicine can be “scientifically proven” as a valid form of healthcare in modern medicine,

the globalization of TCM can play an integral role in the accessibility of therapies worldwide and can promote and develop a more holistic healthcare system.

Community Empowerment

Joleen Chen, Global Health Major, Revelle College

Betel Nut Chewing Practices and Increased Risks of Oral Cancer in Papua New Guinea

The prevalence of betel nut chewing practices throughout countries in the Asia-Pacific region is linked to adverse effects in the oral cavity, including oral lesions in hard and soft tissues and increased risks of oral and extraoral cancer. According to the World Health Organization, Papua New Guinea has the highest incidence rates of oral cancer in the world, attributed to the wide use of betel nut (“buai”) consumption and the sociocultural practices associated with chewing betel nut. Oral cancer is also reported to be the leading cause of cancer deaths of males and the third leading cause of cancer deaths among females in Papua New Guinea (WHO). This project’s goal was to gain a better understanding of the impacts of social and cultural factors on increased betel nut consumption and its relation to higher levels of oral cancer rates throughout Papua New Guinea. These factors were observed through community health engagements and oral health evaluations set up in the Arawa Health Clinic of Bougainville, Papua New Guinea and Malaguna Technical School in Rabaul, Papua New Guinea. These observations revealed how betel nut chewing is viewed as a social pastime between family and friends, and also have cultural implications with betel nut serving as a symbol of peace and friendship. Alongside these social and cultural factors, the lack of awareness and inadequate access to healthcare resources all play a role in the poor oral health statuses of these populations. These barriers negatively affect the risk factors of developing oral cancer and can be prevented through proper oral hygiene instructions, awareness campaigns, increased access to clinical care services, and community-based strategies to ensure improved dental status. Understanding these risk factors are critical to the reduction of oral cancer and linked diseases, as well as the improvement of oral health and overall health and wellbeing.

Brianna Egan, Human Biology Major, Global Health Minor, Sixth College

Compost Tea as an Organic Fertilizer: Investigating the Effect of Compost Tea on Plant Growth

Compost tea (CT) is a water-based extract of compost gaining popularity among gardeners and organic crop-growers. CT is prepared by placing solid compost (SC) into water to allow soluble microbes and nutrients to pass from solid into liquid. This study evaluated the effect of CT on lettuce (*Lactuca sativa*) growth compared to SC treatments and to a control of water alone. I prepared six types of CTs from (i) cattle manure-based vermicompost, (ii) goat manure and carbon-based thermophilic compost, and (iii) human manure-based thermophilic compost. They were each brewed for 24 and 72 hours and applied every two days to potted lettuce plants (n=96). I found a significant effect of treatment type on leaf length and leaf width after 18 days of plant growth. Specifically, leaf length increase was significantly higher in plants with Goat CT (for both the 24-hour and 72-hour brew varieties) and in control plants, than for the Goat SC counterparts. With the exception of one treatment, all treatments of SC and CT experienced greater leaf width increase than control, although these results were not statistically significant. The components of the CT were different from the water used for control plants: Potassium and phosphorus levels increased or remained constant in all post-treatment 72-hour CT soils, whereas these nutrients declined in control soil. Additionally, the electrical conductivity and total dissolved solids of all CTs were significantly higher than that of water, indicating the presence of cations, microbes and other particles. The effect of treatments on plant growth was likely due to the repeated application of soil nutrients and beneficial microorganisms administered by CT.

Yajaira Grande, Human Biology/Global Health Double Major, Revelle College

Food Insecurities Lead to Adverse Health Outcomes, a Comparison Between various United States Populations

Nearly 50 million people in the United States are food insecure. Food insecurity comes from the inability to be food secure, which is primarily due to limited accessibility of food, financial constraints, and other limited resources. Thus, food insecurity prevents individuals from living a healthy and active life, and in doing so, adverse health outcomes follow: anxiety, stress, depression, obesity, diabetes, and heart disease. Based on previous findings, those who experience food insecurity in the United States are typically low-socioeconomic status women, children, and Latino-immigrants. By comparing women, children, and Latino immigrants among a developed and developing countries, different frameworks, such as the ecological and human framework, were explored and compared in order to study food insecurity and better understand its possible contributors/determinants. There were many social determinants such as income, education, race, and age that led to food insecurity at the individual, national, and global level. The United States is one of the world's largest economies and there still exists food insecurity amounting to increased medical care costs, lost educational attainment and worker productivity, nutrition deficiency and other indirect/direct health effects. Because food insecurity rates have increased over the past years, it is of great importance to understand food insecurity at different levels. All of the information and relationships gathered can then be used as guidance for policymakers and family practitioners, social services, public and global health community to create programs or generate new policies that may address the issues of food insecurity and help minimize the great threat it imposes to society and around the world.

Nielah McKee, Global Health Major, Eleanor Roosevelt College

Contaminated Waters

Brazil, like the lead-poisoned water in Flint, MI. spotlight the additional health problems the poor and/or people of color face. The remarkable parallels amid the lead-poisoned water crippling Flint's residents and the contaminated waters of Brazil are the lack of structural oversight. Unfortunately, both tragedies fundamentally have emotional impact on the poor and/or people of color, people who are politically defenseless. The methods used in this project are archival and literature review. The purpose of this research is to give detailed comparison of the Flint water

crisis and Brazil's water contamination to assess its policies that are disproportionately affecting these communities. The water crisis in Flint transpired because Governor Rick Snyder swapped the local legislative body with an emergency manager system envisioned to reduce economic strain on the city by switching its water source to a cheaper option. Flint's water source was altered from Lake Huron water, treated by Detroit, to water from the historically extremely polluted Flint River. As for the residents, they were stuck consuming lead-tainted water which is known to cause lasting brain damage. Flint, a local population over half African American, 40% living in poverty within Flint, MI. Language barriers continue to hinder awareness of the water crisis in both Arab American and Hispanic populations also within the city. In comparison, Brazil also have historically polluted waters. In light of the upcoming Olympic games, a spotlight has been placed on this country as it struggles to meet its goals. There has been some improvement in the cleaning the water supply. However, these efforts have only been focused in the urban, populated areas. The rural areas of Brazil have been neglected due to the lack of attention from the governmental agencies yet the rural regions have the most polluted waters. The residents in this region are poor and have to deal with little to no water sanitation. These two case studies are the result of poor policies and its implementation. It exhibits the need for clearer and transparent policies as well as stricter implementation of policies in all communities especially in regards of achieving the United Nation's Sustainability Development Goals.

Sydney Parham, Global Health/Human Development Double Major, Marshall College

Inadequate Sanitation and Hygiene in Rural Nicaragua: A Study of Perpetuating Sociopolitical and Structural Violence

Poor hygiene and lack of sanitation are among the top global health concerns for developing nations. Thirty-five percent of the world's population (i.e. about 2.5 of the world's 7 billion people) lacks access to proper sanitation facilities. This coupled with inadequate access to safe water sickens and kills thousands of children every day. The WHO (i.e. World Health Organization) believes that health system research leads to an analysis of the sociopolitical structures in which health delivery is a reflection. For this reason, we examine the health delivery system in

place in Nicaragua and the case of inadequate sanitation and hygiene, how it got to be that way, and how this issue is currently perpetuating sociopolitical and structural violence for those affected.

The political unrest of the Somoza dictatorship is summarized in the first paragraphs of the paper in order to emphasize the scope of radical reform and rapid service expansion that followed the insurrection and Healthcare Revolution of 1979. Although the progress made by the Sandinistas should be recognized and celebrated, it also serves to highlight the overwhelming health disparities between the urban and rural populations within the country. Despite the Sandinista's health-service-for-all approach, the service expansion seen by the urban sector has not yet reached rural Nicaragua; sanitation and hygiene serving as only one example of this injustice.

This paper identifies 4 underlying principles to be acknowledged for the successes of Nicaragua's current health delivery system (i.e. (1) Health was declared a human right for every individual, (2) accessible to the entire population, (3) integrating physical, mental, and social dimensions, (4) via community participation). After defining and analyzing each, several forms of sociopolitical and structural violence are introduced as reasons for these 'principles of success' never translating to the rural sector. Current sanitation and hygiene interventions in place by the CDC and UNICEF are summarized, as shortcomings are addressed, before several strategies for improvement are proposed in the last sections. Although the insights and analysis discussed in this paper are specific to Nicaragua, many can be generalized to the entirety of the developing world. The immense lack of proper sanitation and hygiene, resulting health disparities, perpetuating structural violence, failed interventions, and largely overlooked concept of human suffering is not unique to this nation. This paper serves as a window into the grim realities of violence – unintended or not – experienced by rural populations around the world. Perhaps more importantly, this paper doubles as a guide for future intervention in Nicaragua and several other developing countries, providing evidence for sanitation and hygiene practices being not only a global health priority, but an ethical obligation.

Tasuku Takeuchi, Global Health Major, Eleanor Roosevelt College

Evaluation on the Use of Community Health Workers in the Philippines

Chronic diseases, sometimes referred to as “wealthy diseases,” are becoming common in many of so-called developing nations today. The Republic of the Philippines is one such nation. Because the diseases are chronic and are strongly related to the cultural, political, and economic context of the society, ever more medical and public commitment is necessary to assess and address the current chronic, non-infectious disease epidemic. While the need has grown, the Philippines has been simultaneously losing its fundamental workforce to deal with the problem. Medical professionals are leaving the nation, seeking better economic opportunities elsewhere. Those skilled health workers who remain in the nation are heavily concentrated in urban areas. Patients are facing difficulties seeing doctors when needed. Thus, the role of community health workers is becoming significant. Community health workers are community members who have had enough training to provide basic health care in a particular setting. Researchers originally found community health workers to be helpful in dealing with chronic diseases such as malaria, but now the hope is that community health workers can supplement the short fall in the professional healthcare workforce. Community health workers are considered helpful not only because they know their own communities well, but also because the cost of recruiting them is low. As a matter of fact, the government of the Philippines offers community health workers almost no monetary rewards. Community health workers in the Philippines are granted (a) hazard allowance, (b) subsistence allowance, (c) training, education and career programs, (d) civil service eligibility, (e) free legal services, and (f) preferential access to loans. Research seems to support the value of these incentives provided by the government. Indeed, many of the studies emphasize the importance of non-monetary incentives, if they even admit the effect of monetary incentives, to make the intervention successful. As international society now seeks a sustainable healthcare system, community health workers seem to be a panacea for dealing with this new disease epidemic in developing nations. This use of community health workers, without paying actual wages, however, contains a moral issue if one adopts a broader perspective. From this perspective, the

community health workers are simply cleaning up the mess which has resulted from the medical professionals’ selfish behavior. Even though having those community health workers is better than nothing for the sake of the community’s, the stop-gap nature of the current use of community health workers should not be ignored. It is necessary to address the fundamental issue, the brain-drain issue, or seek an alternative form of organizing community health workers.

Meghan Yap, Global Health Major, John Muir College

A Call to Support Male Survivors of Sexual Assault

Male experiences of sexual violence are poorly understood as virtually all research surrounding sexual victimization focuses on female survivors’ experiences. Existing literature indicates that women are much more vulnerable to sexual violence, consequently, support services ignore the population of males who experience sexual violence. This social and academic failure to investigate male survivors’ lived experiences and respective needs further marginalize male survivors. This can result in worse health outcomes for those who feel blamed for their assault, do not feel that they will be believed, or that their sexuality is being questioned. Studies show that males are more likely to suffer severe physical trauma during a sexual assault and less likely to seek medical attention for their injuries, affirming the need to better understand how best to help male sexual violence survivors. This study aimed to understand the roots of male-on-male sexual violence utilizing high-risk groups in multiple populations.

The following high-risk populations for male-on-male experience of sexual violence were selected based on availability of both quantitative and qualitative data: prisoners in American male detention centers, American male soldiers, survivors living in or near post-conflict Rwanda and Uganda, and the “Bacha Bazi” boys of Afghanistan. These populations were also selected based on their unique contexts as this study seeks to find common themes suggestive of sexually violent attitudes among these radically different populations. Themes measured were: patriarchal norms, social stratification, rape myth acceptance, and homophobia. Quantitative data was analyzed for prevalence of rape among populations and qualitative data was used to identify factors that were common or unique among populations.

Preliminary findings indicate that sexual violence in these contexts serve a social role, to assert dominance, or humiliate, and not just serve as a sexual relief. Additionally, male perpetrators of sexual violence often did not identify as gay, yet their violence was enacted upon another male. Based on these findings, I assert that sexual violence is cross-culturally a display of dominance and the justification for its perpetuation is rooted in patriarchal norms. Future directions for this research will explore the implications of these findings for both male and female survivors of sexual violence.

SPECIAL THANK YOU TO FACULTY JUDGES



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