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Clorox and Canal Water: Characterizing Cholera Risk Factors for Haitian Migrants Living in the Dominican Republic

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By

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Bachelors of Science
The University of Florida
2010

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Abstract

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Background: In January of 2010, an earthquake shook the Haitian capital of Port-au- Prince, initiating far-reaching consequences including the migration of large numbers of Haitians into the Dominican Republic. The first case of cholera in Haiti was confirmed on October 21, 2010. The first case of cholera in the Dominican Republic was reported less than two weeks later on October 31, 2010. Since October 2010, there have been over 17,784 cases of cholera in the Dominican Republic, many of which were confirmed in Haitian communities. There is a need for research characterizing factors that influence Haitian migrants' risk for cholera.

Research Question: How does the context of poverty, lack of healthcare access and discrimination contribute to increased risk of cholera (compared with Dominican nationals) amongst Haitian migrants in the Dominican Republic?

Methods: From June to August 2012, eight focus group discussions were held with study participants who had been stratified based on gender, nationality, and place of residence (urban or rural cities). All qualitative data were transcribed, de-identified, and translated into English. Transcripts were coded, and codes used in the formation of a theory grounded in the data.

Results: Many migrants did not have the resources to purchase treated bottled water, or the items needed to treat their water from other sources. Healthcare access was not related to the risk of contracting cholera; however, the lack of access to quality care could potentially influence cholera severity, diagnosis and treatment in all nationalities and geographical locations. Anti-Haitian prejudices increased as Dominicans blamed Haitians for cholera in the Dominican Republic, and discrimination including physical and structural violence had the greatest impact on cholera risk for migrants.

Discussion: This study highlighted the experiences and opinions of Dominican nationals and Haitian migrants with regards to knowledge of cholera, and disease severity. Based on study findings, there is a need for further research on factors impacting Dominicans and Haitians' perception of cholera risk, and the development of culturally appropriate interventions designed to increase Haitian migrants' knowledge of cholera prevention, transmission, and severity.

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CHAPTER ONE: INTRODUCTION

Introduction

The Dominican Republic and Haiti occupy the eastern and western portions, respectively, of the island known as Hispaniola. Although Dominicans and Haitians share Hispaniola, each nation seemingly exists in opposition to the other, displaying a differing governmental organization, culture, and national identity. In January of 2010, an earthquake shook the Haitian capital of Port-au- Prince, Haiti, initiating political, economic, and physical disarray. The earthquake had, far-reaching consequences for Haiti as a nation, as well as targeted implications for many Haitian individuals. Haitian workers migrated into the Dominican Republic, fleeing a diminished economy and emerging cholera outbreak. Unfortunately for these migrants, cholera spread to the Dominican Republic, and thrived in contaminated Dominican water sources. The purpose of this study is to characterize how unique challenges faced by Haitian migrants living in the Dominican Republic lead to their greater risk for cholera than Dominican residents.

History of Hispaniola

In 1492, the Spanish explorer Christopher Columbus set sail in search of India; however, he landed nearly nine thousand miles away in the Caribbean islands. Columbus left a group of sailors on what was then an un-colonized piece of land, and christened the entire island, *La Española,* as the first European settlement in the new world (Rogozinski, 2000). Spanish settlers initially made their income through cattle ranching. However, over time, settlers were drawn westward to Santo Domingo, the capital of La Española. Because the eastern portion of La Española was left unoccupied by the

Spanish, the French were able to settle there (Wucker, 1999). In 1777, the French colonized the eastern 1/3 of Hispaniola, naming it *Saint Domingue* (Wucker, 1999).

Soon after Saint Domingue was colonized, the French began the import of large numbers of African slaves to expansive plantations dedicated to the production of sugar cane. By 1789 the French held hundreds of thousands of slaves- enough to drive the production and export of 40% of the world's sugar (Rogozinski, 2000; Wucker, 1999).

Unfortunately for the French settlers in Saint Domingue, their ability to produce massive amounts of sugar was short lived, and came at a high price. With only 30,000 French settlers in Saint Domingue, the 430,000 black slaves outnumbered them nearly 15-to-1. In 1791, the slaves that the French held revolted against their European masters. Fighting continued until 1804 when slave armies won control of the eastern portion of the island (Rogozinski, 2000; Wucker, 1999). Upon their victory, the leaders of the slave revolt declared themselves an independent nation, and renamed Saint Domingue Haiti, meaning "land of mountains."

In 1818, the French mandated that in exchange for recognition of their sovereignty, the slave rebels were to pay reparations of 150 million francs to the French government (Lowery, 2010). The years of warring left deep scars in Haiti's economy, and although the reparations were never fully paid off, Haiti continued to make installments until 1947, over 129 years later (Mocombe, 2010). Haiti lost its economic footing, ability to build infrastructure, supply jobs, and hope for a developing future. The nation's growth was severely stunted (Lowery, 2010; Watkins, 2000).

The differences between Haiti and the Dominican Republic can also be seen in each nation's quest for independence from colonial powers. When compared to the

struggle that was the Haitian revolution, Spanish colonists received their independence from Spain quite easily. In 1821, a group of nationalists demanded their independence from Spain. Given the French had dominated the lucrative sugar trade; Spain had lost interest in the colony that represented a failed venture, so they acquiesced (Rogozinski, 2000; Wucker, 1999). The western portion of the island that had been known as La Española became the Dominican Republic in 1821(Rogozinski, 2000; Wucker, 1999).

Dominican independence was short lived however, as Haitian forces took advantage of the still developing Dominican government, invaded, and took control of the Dominican Republic in early 1822 (Rogozinski, 2000; Wucker, 1999). Haitian occupation lasted until the Dominican Republic, led by politician and activist Juan Pablo Duarte declared independence and signed the Dominican constitution in 1844. Because of Haiti's occupation of the Dominican Republic, Dominicans hold a distrust of Haitians that continues today (Gates, 2011; Wucker, 1999).

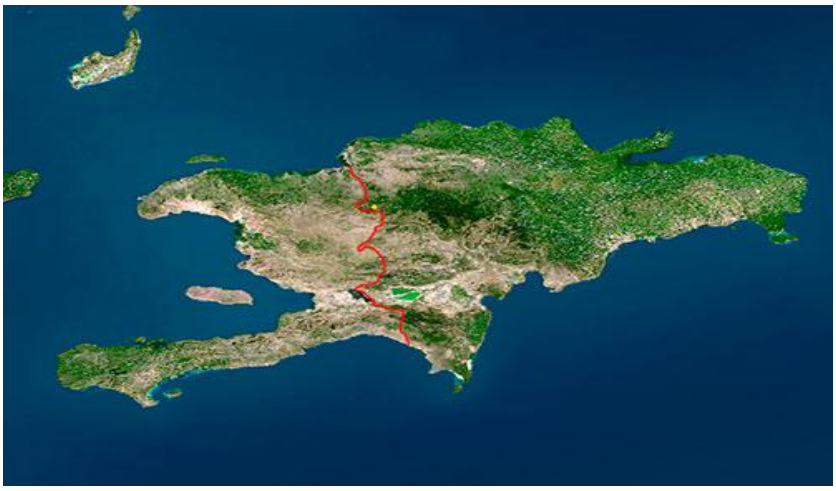

Figure 1. Map of Hispaniola. Haiti is pictured on the Western portion 1/3 of the island, while the Dominican Republic is on the Eastern 2/3. Photo Courtesy of Google Earth, earthsangha.com.

Haitian and Dominican dichotomous ideals of race, color, heritage and worth came about with each respective side of the island's independence, and still have a strong presence in its contemporary culture (Gates, 2011). Haiti was composed of a proud African majority, where, in the 1806 constitution, leadership went so far as to mandate that Whites couldn't own property (Government, 2012; Tavernier, 2008). Contrasting these ideals, Dominican national identity was founded by white-skinned Spanish elites determined to differentiate their race, religion and culture from that of the former slave nation, and their previous political overseer. Between the years of 1844 and 1874, Haitians and Dominicans continued to fight each other for power of the island, and disputes over each nation's borders and landholdings continued well into the 1900's (Rogozinski, 2000; Wucker, 1999; Howard, 2007). Because of the initial differences in colonizing nations, economical strengths, and conduct in times of war and peace, Haiti and the Dominican Republic were destined for different futures.

A tumultuous history between the Spanish and French has morphed into an even rockier present shared by the Haitians and Dominicans inhabiting Hispaniola. Two nations displaying very different characteristics struggle to co-exist on one small island. Understanding these differences is vital in that they create a more complete picture of the complex issues Hispaniola faces today. The most relevant differences include the current economic status of Haiti and the Dominican Republic and the antagonism that is felt between Haitians and Dominicans on both sides of the island. These issues underlie the current cholera outbreak in the Dominican Republic (Howard, 2007; Tappero & Tauxe, 2011).

A First Look at Cholera

With its first symptoms being described thousands of years ago in ancient Chinese and Greek literature, *Vibrio Chloerae* is microscopic bacterium has caused the death of millions of people world-wide, and still continues to do so in developing countries today (Mekalanos, Rubin & Waldor, 1997; Tappero & Tauxe, 2011). Cholera epidemics have been confirmed as far back as the 18th century, killing thousands in coastal regions in India in 1790. In 1848, the cholera outbreak in London, England was chronicled by the storied John Snow. Snow described the disease as "traveling along the great tracks of human intercourse; never going faster than people travel, and generally, much more slowly. In extending to a fresh island or continent, it always appears first at a sea-port" (Snow, 1855).

Recent study has in fact, validated the claims of John Snow, and the advent of modern technology has worked to give a more complete picture of cholera than ever before. Cholera is a bacterium that survives as a free-living organism along coastlines throughout the world. Interestingly, of more than 200 strains of the bacteria, almost all are harmless to humans. Strains O1 and O139 however, are the culprits of major cholera outbreaks and pandemics (Mekalanos, Rubin & Waldor, 1997; Tappero & Tauxe, 2011). Cholera is a diarrheal disease caused by the ingestion of the stool of another person infected with the *vibrio cholerae* bacteria. This fecal-oral transmission usually does not happen from person to person, but is much more likely when water and food sources are contaminated. Cholera is more likely to spread in areas that have a diminished ability to treat sewage and drinking water, and when distributed widely, contaminated food and water can quickly lead to an outbreak situation (O'Connor et al., 2011; Quick, 1996).

Only one out of every twenty people infected with the cholera bacteria (about 5%) will present with symptoms of the illness. Characterized by profuse "rice-water" diarrhea, vomiting and cramps, cholera can lead to rapid dehydration and shock. Despite the small possibility of showing severe symptoms, cholera is so lethal because when untreated, the illness can cause death in less than eight hours after the onset of symptoms (Mekalanos, Rubin & Waldor, 1997; Tappero & Tauxe, 2011). It is known that the consumption of large quantities of a rehydration serum; a mix of sugars, salts and minerals, can stop this rapid killer in its tracks. In areas with adequate resources, intravenous rehydration is also an effective remedy, and can save the lives of up to 80% of recipients (Global Task Force for Choler Control, 2012). The rapid, overwhelming killer has been bested by the efforts of health care workers and care givers thousands of time over, however on the island of Hispaniola; cholera continues to kill (Mekalanos, Rubin & Waldor, 1997; O'Connor et al., 2011).

Cholera on Hispaniola

Prior to 2010, cholera had not been reported in Hispaniola since the 1800's. The source of cholera's introduction to Haiti is still unclear. However, many scientists theorize that the January, 2010 earthquake in Haiti; causing disruptions to water systems and food sources, could have been the cause of the first cases of cholera in Haiti (Farmer et al., 2011; Tappero & Tauxe, 2011). The first case of cholera in Haiti was confirmed on October 21, 2010, and reported to the public on October 22, 2010 (CDC, 2010; PIH, 2010). Interestingly, according to an article published by Partners in Health, there had already been 2,000 reported cases and 140 deaths by October 22 (PIH, 2010). The first case of cholera in the Dominican Republic was reported less than two weeks later on

October 31, 2010 (Tappero & Tauxe, 2011). A second, unexpected result of the earthquake was a wave of an estimated 500,000 Haitian migrants pouring into the Dominican Republic. The link between the earthquake, Haitian migration and the arrival of cholera in the Dominican Republic remains the subject of research, but is becoming increasingly established as an explanatory model in public health (IOM, 2012; O'Connor et al., 2011; Tappero & Tauxe, 2011).

Since October 2010, there have been over 17,784 cases of cholera in the Dominican, many of which were confirmed in the provinces closest to the Haitian border (Tappero & Tauxe, 2011). Because the social and economic costs of cholera in Haiti were great, the cholera outbreaks in the Dominican Republic led to the rapid implementation of public health interventions. Cholera treatment centers were updated with the newest treatment options, public health education materials were created and disseminated, municipal drinking water was evaluated and chlorinated in some cities, and efforts were taken to improve sanitation in boarder provinces (Mendoza et al., 2011; PAHO, 2011). Because of improved national infrastructure and surveillance, a rapid response from the Dominican Ministry of Health was possible. As a result, only 309 cholera related deaths were reported in the year following the outbreak (Mendoza et al., 2011; PAHO, 2011; Tappero & Tauxe, 2011).

Although the Dominican response to cholera can be commended with regards to surveillance, containment and treatment, the ways in which the country responded to migrant Haitians was regrettable. While State sponsored deportations of undocumented migrants was a common occurrence before the epidemic, they increased for documented and undocumented Haitians alike in the months following the outbreak (Amnesty

International, 2011; Kushner & Coto, 2011). Dominican officials blamed migrant and refugee Haitians for the emergence of cholera in their country, and expelled thousands of Haitians during the first days of 2011 (Amnesty International, 2011; Archibold, 2011; Kushner & Coto, 2011).

Haitians in the Dominican Republic

Over the past 208 years- from Haiti's independence to Haiti in 2012- the country has become the poorest in the Western Hemisphere. The 2010 earthquake left the nation at its lowest point, reportedly costing 8.1 billion dollars, and driving the migration of the majority of Haiti's work force into the Dominican Republic (Cavallo, Powell & Becerra, 2010). The Gross National Income (GNI) in Haiti in 2010 was about $1,120.00 dollars per year, the country's Gross Domestic Product (GDP) was $6.346 million, and in 2011, the Infant Mortality Rate (IMR) was 53 per 1,000 live births. When contrasted to the Dominican Republic, with a GNI of $8,990.00 dollars, GDP of 51.576 million, and IMR of 21, the contrast is stark (Tappero& Tauxe, 2011; The World Bank, 2012). Because of Haiti's long history of underdevelopment and poverty, many Haitians have taken a risk and decided that migration to the Dominican Republic would provide the greatest chance for economic stability (Ferguson, 2006; Human Rights Watch, 2002).

There is much debate over the actual number of Haitian migrants in the Dominican Republic, but it has been estimated that up to 1 million Haitians live and work in the neighboring nation, and have been doing so for generations. The majority of Haitians work in the agricultural sector harvesting rice, sugar cane, tobacco and bananas, or in urban construction or tourism (Ferguson, 2006; Kushner & Coto, 2011). Despite their contributions to the Dominican economy, Haitian migrants are discriminated

against. Many Haitians report economic discrimination from land owners who pay them less for doing the same work as Dominican co-workers (Ferguson, 2006; Howard, 2007; Human Rights Watch, 2002). The average Haitian agricultural worker works under poor conditions with restricted access to sewage and latrines. Additionally, because they are chronically underpaid, Haitian workers live in poverty, without access to running or potable water (IOM, 2010; Mendoza, 2011; Tappero& Tauxe, 2011).

In addition to economic disadvantage, large-scale barriers to healthcare affect the Haitian population in the Dominican Republic (Howard, 2007; Tavernier, 2008). Because they are significantly underpaid, migrants cannot afford to pay costs associated with visits to local hospitals and clinics (Ferguson, 2006). Also, many Haitian migrants in the Dominican Republic are undocumented, and as a result, do not have access to nationalized Dominican health insurance (Bartlett, et al., 2011; Human Rights Watch, 2002).

Ultimately, undocumented migrants lack protection under Dominican law. This is problematic with regards to anti- Haitian discrimination including issues such as denial of Dominican citizenship, deportation, and violence that is perpetrated against Haitians. Recent legislation stated that any person born on Dominican soil is deemed a Dominican citizen; however, practices have shown that Haitians born in the Dominican Republic are often denied citizenship (Bartlett, et al., 2011; Ferguson, 2006). Additionally, Haitians, including second generation migrants, describe experiences of violence, and unprovoked deportation (Human Rights Watch, 2002).

Definitions

Throughout this paper, specific terms will be used to describe Haitians who live in the Dominican Republic, and their daily experiences. Understanding these terms will provide a greater understanding of the context in which this paper is written. These terms, and their definitions follow.

1. *Haitian Migrant*- A Haitian migrant can be defined as any Haitian living in the Dominican Republic who migrated to the Dominican Republic in his/her lifetime. Many Haitian migrants travel to and from the Dominican Republic and Haiti in a cyclical pattern, going to the Dominican Republic to find work, and returning to Haiti at the end of the agricultural or working season (Grasmuck, 1982).

2. *Anti-Haitianismo*- Anti-Haitianismo ideology is a combination of racist, anti-African thought that was held in the nineteenth century by Spanish colonists in Hispaniola, and is perpetuated in twentieth century neo-racist attitudes (Sagas, 1993). Anti- Haitianismo attitudes are demonstrated through the creation of Haitian stereotypes (Haitians are angry, criminals, violent), Haitian discrimination, and the stigmatization of being Haitian, or dark skinned in the Dominican Republic (Tavernier, 2008).

3. *Structural violence*- large- scale social structures- economic, political, legal, religious, and cultural- that stop individuals, groups, and societies from reaching their full potential (Simmons, 2010). Examples of structural violence perpetrated against Haitian migrants in the Dominican Republic include the denial of citizenship, educational opportunities, and protection under Dominican law (Farmer et al., 2006).

Study Purpose

There is much qualitative research that describes the life experiences of Haitian migrants in the Dominican Republic (Farmer et al., 2006; Howard, 2007; Tavernier, 2008). Also, many public health workers have recorded the clinical aspects of cholera including virology, symptoms and transmissibility, and investigated disease surveillance including cholera cases both suspected and confirmed (Mekalanos, Rubin & Waldor, 1997; O'Connor et al., 2011; Quick, et al., 1996; Snow, 1855; Tappero & Tauxe 2011). However, there are few studies that examine how the context of Haitian migrants' lives contributes to their risks for contracting cholera. The purpose of this study is to examine specific aspects of the Haitian migrant's life - lack of economic resources, lack of access to health care, and discrimination- and explore how these may contribute to their susceptibility to cholera. Ultimately, with better knowledge of the contextual influences and challenges that Haitian migrants face, we will be able to create a framework to explain how their lifestyle could lead to a greater risk of cholera when compared to Dominicans who have higher incomes, access to healthcare, and do not face structural discrimination.

Research Question

How does the context of poverty, lack of healthcare access and discrimination contribute to increased risk of cholera (compared with Dominican nationals) amongst Haitian migrants in the Dominican Republic?

Conclusion

The interplay of the history of Hispaniola and intricacies of migration has great implications on migrant Haitian health. Being unemployed or getting paid less than the average Dominican worker, a lack of access to healthcare and health insurance, and experiences of discrimination all impact the health of the migrant Haitian population (Howard, 2007; O'Connor et al., 2011; Tappero & Tauxe; 2011). Cholera is an opportunistic disease that thrives in contaminated waterways like those that neighbor many migrant Haitian communities. Recent data collected from provincial ministries of health show that the municipalities with the densest Haitian migrant population have the greatest number of suspected and confirmed cases of cholera (Dominguez, 2011). At a very basic level, cholera is a bacterial illness, which with the proper tools, can be cured easily. The problem that remains is the lack of resources in these migrant communities, and the cultural barriers that predicate that lack.

CHAPTER TWO: LITERATURE REVIEW

Literature Review

"Haiti and the Dominican Republic are at highest risk for sustained cholera transmission should the epidemic be introduced there."

PAHO, 1998

Introduction

The goal of this literature review is first, to provide a brief summary of cholera, the large scale determinants, and the individual behaviors that place a group of people, or an individual at risk for contacting the illness. The island of Hispaniola is then examined, while taking into account the previously discussed cholera information. Additionally, this literature review seeks to describe the experiences of Haitian migrants in the Dominican Republic with regards to the economic hardships they face while living there. Migrant's lack of access to healthcare in the Dominican Republic will also be discussed, followed by descriptions of experiences of discrimination that migrants face. The implications of economic hardship, a lack of access to healthcare, and discrimination with regards to cholera risk will be presented, including places where there is a dearth of applicable research.

Characterizing Cholera Risk

In order to fully understand the ways that Haitian migrants in the Dominican Republic could be at a greater risk for cholera, one must have knowledge of cholera, its risk factors, and the characteristics that must be present for an individual to be at risk for the disease. Early studies on Cholera date back to the 1800's when epidemiologist John Snow, tracked an outbreak that began at a community water pump (Snow, 1855). As the

miasma theory of disease was still prevalent, Snow discovered that contaminated water was the source of disease well before the discovery of the *Vibrio Cholerae* bacterium (Koch, 1894; Snow, 1855). It wasn't until 1894 and three pandemics later, that a bacterium living in water was named as the causative agent for cholera (Koch, 1894; Snow, 1855). Given that the infectious dose of cholera is 10^8 to 10^5 bacteria in a healthy person, cholera has a relatively high infectious dose. This has implications in that the majority of people who show symptoms for cholera have a large number of the bacteria in their digestive system. These high numbers are usually the result of ingesting contaminated water on a regular basis (Sack, 2004; WHO, 1984).

Later studies revealed that not only was direct ingestion of contaminated water the source infection, but that contaminated water could be consumed in other forms as well. In a memorandum from a 1984 World Health Organization summit, it was discussed that actions such as preparing food, washing dishes, and bathing all could lead to ingestion of contaminated water, and subsequent infection (Hunter et al., 2010). Future recommendations from the summit included further research into risk factors for cholera (WHO, 1984). As research continued, the Pan-American Health Organization (PAHO) development index sought to quantify cholera risk in Latin American countries. In a quantitative study assessing the relationship between national socioeconomic indicators and epidemic cholera, PAHO found a negative correlation between the Human Development Index, (composed of life expectancy at birth, educational attainment, and GDP per capita) in addition to female literacy and national risk. Infant mortality rates were positively correlated with national risk. Interestingly, although Haiti and the Dominican Republic were not included in their calculations, researchers predicted that if

cholera were to spread to either nation, an epidemic would certainly follow (Ackers, et al., 1998; PAHO, 2011).

Cholera risk can also be focused on a smaller scale. As opposed to national indices composing risk, studies have shown that individual characteristics can lead to a risk for cholera (Ali et al., 2012). Those people who do not have access to disinfected drinking water and municipal water treatment services are more likely to come into contact with contaminated water (Ali et al., 2012; ICDDR, 1993). In areas like the Dominican Republic and Haiti, where cholera is not endemic, men are more susceptible as they are exposed to contaminated food and water while at work. At risk men engage in work that women traditionally do not take part in, including harvesting agricultural crops in rural fields that do not have access to treated drinking water, and working construction in unfinished buildings without running water (ICDDR, 1993; Sack, 2004). Additionally, according to the World Health Organization's (WHO) Millennium Development Goals (MDG), lack of access to improved sanitation facilities, (facilities that hygienically separate human excreta from human contact) and improved drinking water sources, (water sources protected from outside contamination, particularly from contamination from fecal matter) can greatly increase individual cholera risk (WHO, 2010).

In the WHO report on 'Progress on Drinking Water and Sanitation' (2012), it was stated that in rural areas in the Dominican Republic, at least 25% of the population was using unimproved sanitation facilities, or open defecation (WHO, 2012). Access to clean drinking water was also limited. In rural areas, 16% of the population drank water taken from unimproved sources, including surface water from rivers and canals (WHO, 2012). This statistic is relevant because the majority of the population living in rural areas

in the Dominican Republic is Haitian. According to a migration report released in 2002, up to 65-75% of people living and working in rural Dominican sugar plantations were of Haitian descent (Human Rights Watch, 2002).This majority is so great, that Haitians are bearing the burden of the lack of access to improved sanitation and water sources, leading to a greater risk for cholera.

Migrants' Economic Disadvantage

It is estimated that up to 1 million Haitian migrants live in the Dominican Republic on a seasonal or permanent basis. The distinction between those Haitians who permanently reside in the Dominican Republic and those who migrate seasonally is difficult to make (Grasmuck, 1982; Martin et al., 2002). Because of a lack of Dominican laborers at the peak of sugar production in the early 1900's, Dominican and Haitian governments signed contractual agreements allowing tens of thousands of Haitian laborers to work on government owned sugar plantations seasonally. The Dominican government profited as sugar was exported and the wages that migrants would send back to Haiti helped boost its lagging economy (Grasmuck, 1982; Martin et al., 2002; Howard, 2007; Ferguson, 2003). Because of the economic benefits of this "dependent development," each nation continued to host migrations into the 1990's (Grasmuck, 1982). Despite the large numbers of Haitian migrants in the Dominican through governmental contracts, many do not return to Haiti at season's end. This shared profitability also drives the migration of large numbers of undocumented Haitian laborers working in privately owned agriculture (Lotoure, 1985; Martin et al., 2002).

While the Dominican and Haitian governments profit from migration, the financial situation of a Haitian migrant can be quite precarious. Qualitative studies

examining the financial aspects of migration, reach back into the 1980's when there were only 200,000 Haitians living in the Dominican Republic. Haitian workers were paid based on the tonnage of sugarcane cut per day, with a price per ton ranging from $1.55 to $1.70. The industry standard for cutting cane was about 1.5 tons per day, so an average cane cutter could earn up to $2.50 per day. Given that the official agricultural minimum wage in the Dominican is $4.00 per day, this is extremely low (Ferguson, 2003; Grasmuck, 1982; Martin et al., 2002). Similar qualitative studies have reported exploitation of agricultural workers. Accounts of being paid less money than Dominican or West Indian counterparts for doing the same jobs are common place for Haitian migrants. Additionally, as migrant work is based in seasonality, the ending of harvest times leaves fewer job options, because they know that work is scarce, many land owners reduce their wages, forcing migrants to do the same work for less money (Simmons, 2010).

The availability of seasonal work, coupled with the urgings of Dominican and Haitian governments drives the migration patterns of Haitians to the Dominican Republic. However, there are many economic risks associated with the decision to live and work in the DR. Qualitative and anthropological studies have chronicled hardships including clandestine border crossing operations, paying to be smuggled into the DR, and being forced to pay bribes to officials regardless of legal status(Amnesty International, 2003; Ferguson, 2003; Bartlett et al., 2011). In a study done by Bartlett et al., (2011) Haitian migrants reported that, if arrested, they have clear ideas of the amount of money they will have to pay an immigration officer to prevent deportation. One respondent stated "There's never any explanation. They just take your money and you leave." Many

workers are targeted by immigration as they leave work, and end up paying the majority of their already low salaries to officers to avoid deportation (Bartlett et al., 2011).

Implications for Cholera Risk

Thus the precarious economic situation for migrants follows a cyclical pattern. After leaving abject poverty in Haiti, the migrant must pay to enter the Dominican Republic. After finding a job, migrants are paid lower wages than Dominican counterparts, and often, after leaving work, are forced to pay the majority of their earnings to immigration officials to avoid deportation. This series of events has great implications in the health status of migrants (Malmusi et al., 2010). It is estimated that migrant families survive on between $500- $1,900 per year, living in shanty towns constructed of wood or stone, in rural areas close to agricultural crops. In addition to poor construction, homes have no access to basic sanitation facilities or running water (Tappero & Tauxe, 2011; Ferguson, 2006). Both Bartlett et al. and Simmons (2011; 2010) conclude that these economic conditions have direct negative effects on migrant health and wellbeing. While it is known that migrants living in these conditions are at risk for hepatitis, TB, and other communicable diseases, further research to investigate a link between economic conditions specific to migrants and cholera is needed (Bartlett et al., 2011; Simmons, 2010; Hansen & Donohoe, 2003).

Lack of Access to Health Care

As a result of occupational hazards, migrants are at risk for chemical and pesticide-related illnesses, dermatitis, heat stress, respiratory conditions, musculoskeletal disorders, traumatic injuries, and reproductive health problems (Hadley, 2010; Hansen & Donohoe, 2003). Because of substandard living conditions migrants are also at risk for illnesses in their homes. Infectious disease, dental diseases, cancer, poor child health, inadequate preventive care, and social and mental health problems are all commonly reported by migrant farm workers (Malmusi et al., 2010; Tappero& Tauxe, 2011; Hansen & Donohoe, 2003; Holmes, 2006). Additional qualitative studies tell the stories of Haitians in the Dominican Republic who refrain from seeking care despite having life threatening illnesses such as TB and cancer (Farmer et al., 2006; Simmons, 2010).

Given the previously listed health concerns, one of the greatest challenges facing Haitian Migrants in the Dominican Republic is their lack of access to healthcare, and the transient nature of migrant life works only to increase those difficulties. When migrating, Haitians traverse healthcare systems, leaving their national healthcare system and seeking care in Dominican hospitals and clinics. Additionally, as migrants travel to various regions within the Dominican Republic in search of work, continuity in care is lost. Their ability to keep adequate medical records or seek primary care is greatly limited (Gushulak & MacPherson, 2006). Because many health care providers only see patients in emergency situations, treatment is limited to the patient's symptoms, and not the context that created the symptoms (Gushulak & MacPherson, 2006; Moe & Rheingans, 2006).

Several studies have described migrant health, citing reasons including confusing healthcare systems, cultural and language barriers, fear of deportation, and discrimination as the context in which migrant health issues exist (Hadley, 2010; Holmes, 2011). Other sources describe greater structural violence (social structures—economic, political, legal, religious, and cultural—that stop individuals, groups, and societies from reaching their full potential) as a catch-all for migrant disparities (Farmer et al., 2006; Simmons, 2010). In greater depth, migrants described healthcare systems as one of contradiction, and confusion. In a qualitative assessment of treatment seeking behaviors, migrants reported that they knew exactly where the nearest hospital or clinic was, but noted that the clinic was much too far to reach on foot, and the cost of transportation to the clinic was much more than they could afford (Farmer, 2006). Also, if migrants actually reached the clinic, they were given diagnostic tests results in Spanish, and were prescribed various pills to take with little to no instruction on how to take them properly (Amnesty International, 2007; Bartlett et al., 2011; Ferguson, 2003; Tappero& Tauxe, 2011).

Implications for Cholera Risk

Although there are studies describing the barriers to care faced by Haitian migrants, the implications of these barriers with regards to cholera are unknown. In the wake of a cholera epidemic in the Dominican Republic, surveillance in addition to prevention efforts including treatment of municipal water supplies, distribution of in-home treatment kits, and public health messaging were greatly scaled up (Mendoza, 2011; Tappero & Tauxe, 2011). However, given the information known about the health issues faced by migrants, it is possible that there were gaps in overall Dominican cholera surveillance, and that national cases of cholera are greatly underreported. Additionally, it

is possible that many rural Haitians could not benefit from treated municipal water sources, and never received prevention messages thus putting them at a greater risk for cholera than Dominicans.

Anti-Haitian Discrimination

The following section describes the history of the relationship between the Dominican Republic and Haiti to provide context on the cultural beliefs of both Dominicans and Haitians. Additionally, the manifestations of these beliefs influence Haitian migrants' lack of access to healthcare, and their chronically poor socioeconomic status; which have been previously discussed. Leaders of the Dominican Republic have been historically anti-Haitian, holding to ideals of being descended from white Europeans, free of the savagery of African descended Haitians, and resenting Haitians for their brief conquest of the Dominican Republic in 1822 (Tavernier, 2008). According to historian Henry Louis Gates (2011), the distinction between the white, Spanish Dominican, and the black, African Haitian is still perpetuated through the idealizing of light skin, and Dominican denial of African ancestry, despite the fact that at least 90% of Dominicans are of African descent. This desire to make clear distinctions, though not found ubiquitously, drives Haitian discrimination today.

With regards to experiences of discrimination, the stories of Haitian migrants are many. Because of policies carried out by the Dominican legal system and extreme poverty in Haiti, many Haitian migrants remain in the country illegally (Government of the Dominican Republic, 2012; Howard, 2007; Mendoza, 2011). However, the most widely described experience of discrimination has been the refusal to grant citizenship to children of Haitian migrants living in the Dominican Republic, despite constitutional

amendments mandating that any person born on Dominican soil is considered a Dominican citizen (Government of the Dominican Republic, 2012; Ferguson, 2006; Bartlett et al., 2011). One Haitian born in the Dominican Republic stated that "they didn't want to give us documents. They told me we would have to get the documents in Haiti. They don't want my children to have Dominican documents either" (Bartlett et al., 2011).

As the Dominican economy shifts from solely agricultural production, the number of Haitian migrants in the Dominican Republic grows to include women who are choosing to migrate to urban areas in search of jobs as street vendors, in domestic service, and at hotels (Martinez, 1999). Lucia Francois, a mother of two, reported that she was detained by immigration officials, and deported without her children, who were left with neighbors in the Dominican Republic. Similarly, many other migrant workers reported hasty deportations at the end of the harvesting season, leaving no time to collect personal belongings, or notify family members (Simmons, 2010).

The dichotomy surrounding migration and discrimination is that the Dominican economy benefits from Haitian labor, however, Dominicans often bemoan the presence of migrants (Grasmuck, 1982; Howard, 2007). This dissatisfaction has recently manifested itself in violence against migrants. In a mixed-methods study of deportation, one third of migrant respondents stated that they were physically abused, beaten, or hit with rifle butts while detained (Simmons, 2010). Additional occurrences of violence were reported in rural locations where migrants typically work alongside poorer Dominicans. Given that simply looking like a Haitian, or being too dark skinned can lead to persecution, migrants refrained from reporting violence for fear of authorities, and

resignation that no action would be taken against aggressors (Howard, 2007; Ferguson, 2003).

Implications for Cholera Risk

These **s**tudies have shown that the continual reminder of migrants' lack of power has direct results on their health status. The psychological effects of the stress on health are well known, and the fear of deportation and violence can definitely be attributed to mental health issues in the migrant population (Farmer et al., 2006; Sargent & Larchanche, 2011). However, in a qualitative study amongst Haitians, it was shown that resignation to discrimination in the Dominican Republic lead to the neglect of personal health, and lack of engagement in healthful behaviors (Simmons, 2010). Because cholera is such a pervasive illness in the migrant Haitian community, neglecting its prevention could lead to a much higher risk in this disenfranchised population.

Conclusion

The results of economic instability are linked to poor living conditions that influence the health status of migrants, creating the likelihood of cholera risk. Additionally, structural limitations on migrant's access to health care can lead to inadequate care, and an increased susceptibility for cholera. Discrimination could be linked to transmission of cholera as migrants resign to their social status, and neglect healthful prevention behaviors. Literature across disciplines including global health, anthropology, history, economics, and medicine has discussed Haitian migrants in the Dominican Republic. This study aims to draw on the insights of those sources, and employ qualitative methods to not only provide greater understanding of the living

situation of Haitian migrants, but provide a clear explanation as to how the challenges they face can lead to a greater risk for cholera than Dominicans.

CHAPTER THREE: METHODS

Methods

Ethics

This study protocol was reviewed by the Emory University Institutional Review Board, and deemed exempt. The study posed no more than a minimal risk to participants, and did not offer incentives for participation. The consent form used in this study for focus group discussions (FGDs) met the criteria of the Emory University Institutional Review Board (IRB) and the Ethics Committee of the Universidad Autónoma de Santo Domingo-CURNE.

Research Context

Study Setting

Data were collected from June 2012 to August 2012 in several municipal districts in the Duarte Province, Dominican Republic. The Duarte Province has an estimated population of 310,357. The majority of the population (58.3%) lives in urban and suburban areas. In order to select study sites, clusters of multiple mixed Haitian/ Dominican communities were mapped, and two were chosen. These communities were La Enea and San Martine. La Enea and San Martine were chosen based on safety for the research team, logistical ease of access, and representativeness of other mixed Haitian-Dominican populations in the province.

La Enea, a small, rural informal settlement consisting mainly of Dominican farmers, and the Haitian migrants that labor on those Dominican owned farms. Because of the transient nature of the migrants that live in La Enea, and the fact that La Enea is an informal settlement, its population size is unknown. San Martine is an urban

neighborhood in San Francisco de Macorís, consisting of a mix of Dominican and Haitian laborers and professionals. San Francisco de Macorís is the largest city in the province with a population of approximately 245,000 people (Dominguez, 2011).

The majority (58.3%) of individuals in the Duarte Province live in urban and suburban areas, with the remainder (another 41.3%) living in rural areas. Because of the availability of labor on large farms, the Haitian migrant population composes a large portion of those living in rural areas in the Dominican Republic (Dominguez, 2011). Therefore, both urban and rural study sites were chosen to capture diverse experiences of Haitian migrants in the Duarte province. Additionally, including both urban and rural locations allowed the researcher to compare issues raised by migrants in each location.

Researchers lived in San Francisco de Macorís for eight weeks, and were able to observe community interactions first-hand. Although the researchers did not live in La Enea, multiple visits were made to the community before and during the data collection process.

Collaborators

This study was conducted in collaboration with administrators, staff, and students at the Universidad Autónoma de Santo Domingo-CURNE, a local university in San Francisco de Macorís. The university president, Raphael Castillo allowed the use of university facilities including class rooms, internet, computers, and copy machines, in addition to consulting with researchers in the formation and approval of a Spanish research proposal.

University staff had in depth knowledge of the communities included in the study. They worked closely with the researchers during the process of study design, acting as

advisors on study sites, population demographics, and contributing local knowledge to facilitate the data collection process. Finally university students also contributed to this study- acting as research assistants in the field, translators, focus group moderators, and transcribers of audio data.

Study Population

Study participants were adult (>18 years old) residents of two communities, (La Enea, and San Martine) and comprised of a mixture of Haitian migrants and Dominican residents in the Duarte province. Focus group participants self-identified as migrant Haitian or native Dominican resident, and were chosen for participation based on their knowledge of the experiences of a Haitian migrant in the Dominican Republic. All participants provided oral informed consent in either Kreyol or Spanish prior to engaging in group discussions.

Inclusion Criteria

Study participants were eligible for this study of if they identified as either a Haitian migrant to the Dominican Republic, or native Dominican and were:

1. over 18 years of age;
2. residents of mixed communities in the Duarte Province; and
3. able to give informed oral consent to be in a FGD.

Data Collection Methods

This cross-sectional, qualitative study sought to gain greater understanding of living situations, and interactions between Dominicans and Haitians in La Enea and San Martine.

Data Quality

The data collected are thorough in that the researcher worked to make data collection methods culturally appropriate, accurately translated, and applicable to the study population. For example, instead of asking participants about their plumbing and water treatment systems, data collection instruments asked participants about latrines and the locations where they purchased treated water. Additionally, because all focus groups were conducted in the native language of both the participants and the moderators, language was not a barrier between the participants and the moderators. Native speakers were also employed during the transcription and translation process, ensuring that the meaning of colloquialisms in Spanish or Kreyol were not lost.

Focus Group Discussions

Focus group discussions were used to collect data, as they allowed the researcher to examine community perceptions of cholera risk, experiences of Haitian migrants in the Dominican Republic, and the differential risk for cholera between the two groups. A total of eight focus group discussions were conducted during this study, each lasting approximately 1 hour. FGDs were comprised of 5-8 participants. Participants feel more at ease, are more likely to share opinions, and engage in more natural conversation in heterogeneous groups (Kitzinger, 1994). Therefore Haitian and Dominican participants were grouped according to gender and nationality in both urban and rural areas (Table 1). This grouping also allowed researchers to compare the discussion topics raised in each group.

Table 1
Characteristics of Focus Group Discussion Participants

Participants	Number of Participants	Age range
Urban Groups		
Dominican Men	5	21- 48
Dominican Women	7	40-54
Haitian Men	6	26- 34
Haitian Women	6	19- 23
Rural Groups		
Dominican Men	7	23- 73
Dominican Women	6	†
Haitian Men	6	18- 33
Haitian Women	6	25-38

† Indicates missing information

The location for each of the FGDs were chosen based on convenience, ease of access for participants, and the ability to have a quiet, undisturbed discussion. The purpose of the study was explained to eligible individuals at the beginning of each FGD. Individuals were given the opportunity to consent or decline participation or being recorded, and were informed that they could leave the discussion at any time if need be. Because FGD participants were familiar with each other through membership in professional organizations, living in the same neighborhood, or working at the same jobs, there was the potential for participants to refrain from sharing personal details about their lives. As a result, the research assistants were trained in helping participants to feel more at ease, by explaining expectations for privacy within the group (Gibbs, 1997).

Researchers informed all participants that their responses within the group should not be discussed outside of the group, and would not be shared with any third party outside of the research team. For the purpose of the FGD participants were assigned a letter (e.g. A, B etc.), and were identified only by this letter. Participants were not

compensated for time given to this study; however, as a gesture of appreciation, all participants were offered refreshments at the conclusion of the discussion.

The Focus Group Discussion Guide

The FGD guide consisted of six sections. For a copy of the focus group discussion guide see Appendix A. The first section of the guide was an introduction to the focus group describing the purpose of the study. The second was a community mapping activity with ten landmarks that participants were asked to draw, allowing participants to describe their communities to the researcher. For six out of eight focus groups, participants did not feel comfortable actually drawing a community map, so the questions that were intended to be answered in the form of a community map, were simply asked, and discussed in conversation. Because community maps were not completed in every focus group, no data from them was analyzed.

Next was a free listing activity with four questions. Free listing questions included "What are the ways in which someone in your community can get cholera," and "What can people to do to prevent getting cholera?" During the free listing activity, participants were able to call out the first answer that came to their minds. This activity was designed to reveal participants unfettered level of cholera knowledge.

The fourth section of the guide contained seven key questions. Key questions included, "Why do Haitians come to live in this community," and "How has your community changed since cholera came here?" These questions were designed to assess community perceptions of Haitian migration, and cholera risk factors. Questions such as "How do Dominicans see Haitians," and "Do you ever experience discrimination?" were asked to evoke any experiences of discrimination that Haitian migrants might have had.

The fifth section was composed of two closing questions summarizing the discussion, and the sixth was a conclusion, thanking participants for their input, and asking for any final questions. The focus group guide was designed to be completed in an hour.

The focus group discussion guide was piloted in Las Mercedes, an urban community, and Los Limones, a rural community. After piloting, the guide was changed to remove English colloquialisms, and better reflect meanings in Spanish and Kreyol. For example, "How do Dominicans and Haitians get along," when translated, was changed to "How do Haitians see Dominicans," and "How do Dominicans see Haitians?" After piloting, the discussion guide, the previously mentioned free listing activity was included in order to evoke participants' first thoughts on cholera and sanitation issues. Also, the guide was shortened from 25 questions to a total of 17.

Data Collection Process

Research Assistants

Three members of the research team were present for each focus group. Each discussion was digitally recorded, while one research assistant served as moderator, and one research assistant served as a note taker and translator for the researcher. Each research assistant remained in their role of moderator or note taker for the duration of the data collection process. All research assistants conducted FGDs in their native language of either Spanish or Kreyol. Haitian research assistants were male, and Dominican research assistants were female. This gender distribution was coincidental, and it is unknown if the gender of the research assistants influenced the responses shared during focus groups.

Research assistants attended a week long course where they were trained in participant recruitment, containing the size of focus groups to less than eight participants, stratifying participants based on gender and nationality, and scheduling focus groups based on the needs of both the participants and the researchers. Additionally, research assistants were trained in skills needed to moderate focus groups. Skills included obtaining informed consent, explaining expectations of privacy, probing, handling dominant or shy/quiet participants, and steering conversation to ensure that participants stayed on topic, and did not ramble during the discussion. Trainings on note taking, translation for the researcher during the focus group, and final transcriptions of recorded data were also given. Finally, after research assistants had completed training, they participated in the piloting of focus groups to test skills, and the ease of delivery of the focus group discussion guide.

Participant Recruitment

Researchers refrained from directly participating in the recruitment of FGD participants so as not to influence community members' perceptions of the study, or create pressure to acquiesce to participation. Instead, researchers worked to develop rapport with potential gate keepers in San Martine and La Enea through continued visits to both study sites. As researchers gained familiarity with study sites, gate keepers were subsequently determined. Examples of gate keepers included the president of a local neighborhood co-op, a well-known public health worker, a rural shop owner, and a respected land-owner.

Gate keepers were selected based on their knowledge of the community, insight into the cultural norms surrounding cholera and Haitian migration, and willingness to

help recruit focus group participants. Gate keepers were informed of the inclusion criteria for the study, and recruited participants with those specific characteristics. A total of four gate keepers were identified. Dominican gate keepers worked to recruit Dominican participants, and Haitian gate keepers recruited Haitian participants. Through the use of gate keepers, participants including co-workers, shop clients, neighbors, and fellow members of professional organizations were recruited. Because participants lived in the same community, and had a relationship with their respective gate keepers, they all were members of the same social network. Through this recruitment, a total of eight focus groups were conducted representing Haitian and Dominican men and women in both urban and rural areas.

Data Analysis

Transcription and Translation

All qualitative data collected for this study were digitally recorded by the research team. The digital recordings were transcribed verbatim into either Spanish or Kreyol by research assistants who were native speakers. Finally, Spanish and Kreyol transcripts were de-identified, and translated into English by bilingual native speakers. Some expressions and idioms were left in Spanish or Kreyol as a means of conserving the original meaning and tone expressed by participants.

Coding

Translated, transcribed data were thoroughly read before using any type of coding software. Data were annotated, and notes were taken, detailing concepts that were mentioned multiple times during focus group discussions. Transcripts were entered into MAXQDA10 (Marberg, Germany, 2010) - a qualitative data analysis software package,

and systematically analyzed. Codes within the data were identified and grouped together under parent codes including Migrant Haitian Experiences, Dominican/ Haitian Relationships, Cholera, Structural Violence, and Treatment Seeking Behaviors. The use of parent codes allowed the researcher to organize data, and make comparisons across stratifications such as knowledge, nationality, and place of residence within each parent code. Codes were inductive and deductive, and developed based on ideas and themes that came directly from the transcribed data.

These preliminary codes were then compared to the transcripts, and revised based on their adherence to the data, and ability to accurately and fully capture the ideas brought forth in the text. Revised codes were then synthesized into a codebook. The completed codebook and a translated, de-identified transcript were given to an outside researcher for coding. The researcher then compared internally and externally coded data, and revised the codebook as needed.

Transcribed data were analyzed using a grounded theory approach. The first step in analysis was a thorough description of codes. The description included the context in which each issue was discussed, how widely the issue was discussed, and any individual nuances relating to the issues. These descriptions helped to explore the related issues and build up a detailed, contextual understanding of the influences on cholera risk.

The next stage involved making comparisons across the data by potentially meaningful (as determined through earlier analysis) inductive population subgroups. For example, comparisons were made between rural Haitian migrants and other study participants (as rural participants' situation was shown to be unique in the earlier descriptive analysis) to examine access to treated water in their homes. Comparisons

were also made between Dominicans and Haitian migrants to explore their ability to access quality healthcare; experiences of discrimination for rural and urban Haitian migrants were compared before and after the emergence of cholera in the Dominican Republic. Finally, comparisons were made between participants who had received cholera prevention messages were compared to those who had not.

Data were analyzed through the theoretical framework that guided this study focusing on three potential influences on cholera risk: migrant Haitian poverty, healthcare access, and discrimination. The findings on these influences were thus, compared to those of previous studies and established theories in the literature, to define the unique contextual influences that contribute to cholera risk in the study context.

In order to explain how specific influences contributed to cholera risk in the study sites, the links between risk, reported influences, and theoretical constructs such as treatment seeking behaviors, cholera knowledge, and structural violence were examined. Inductive constructs (e.g., cholera risk perception) were added to those from the theoretical framework of the study (e.g., poverty, lack of access to healthcare and discrimination) in order to understand how they all worked to develop a conceptual understanding of cholera risk.

Limitations

Data Collection

The data collected during this study is not without limitation. Because this is a cross-sectional study, Haitian and Dominican relationships, and knowledge of cholera were studied at only one point in time. Ideally, if this study were conducted over an extended period of time in subsequent years, the researcher would be able to understand

the impact of cholera in migrant Haitian/ Dominican communities as a dynamic process. This limitation was addressed as the researcher worked to collect complete data on as many subsections of the population as possible, including males and females, Dominicans and Haitians of varying ages and income levels, and people living in rural and urban areas.

Data Quality

Data quality was potentially compromised because of language barriers during data collection. Language barriers between Spanish and Kreyol speaking research assistants, and the researcher could have influenced the quality of the data collected, in that limited language abilities were a barrier to clear communication of study tasks. This limitation was minimized through the use of in country collaborators, including university research staff, to clearly explain research tasks to assistants, and communicate assistants' questions and concerns to the research team.

Additionally, data quality could have been compromised because of the make-up of the focus groups. In La Enea, participants were from varying economic backgrounds, and focus groups included wealthy land owners, and the men who worked for them. It is possible that because of the uneven power dynamics that existed in the groups, members did not feel comfortable sharing their opinions on issues that could offend their employers. This limitation was minimized through the explanation of the purpose of the discussion, stating that all opinions were welcomed and equally valid during the focus group.

CHAPTER FOUR: RESULTS

Results

Introduction

The research question that this study sought to answer was "How does the context of poverty, lack of healthcare access, and discrimination contribute to increased risk of cholera (compared with Dominican nationals) amongst Haitian migrants in the Dominican Republic?" During data collection and analysis, several themes emerged that gave the researcher a greater understanding of Dominican and Haitian relations with regards to cholera risk in the urban and rural study sites in the Dominican Republic.

The results of this study show how poverty faced by rural migrant Haitians restricts their access to potable water, and increases their risk for cholera. Next, inadequacies related to healthcare access that influence cholera diagnoses, severity, and treatment in all nationalities and geographical locations are described. Additionally, experiences of discrimination, and the heightening of anti-Haitian prejudices are discussed in relation to cholera in the migrant Haitian population. Finally, Haitian migrants and Dominican nationals will be compared to highlight differences in each group's perception of cholera risk.

Rural Migrant Haitian's Cholera Risk

As described in the background section, poverty experienced by Haitian migrants puts them at risk for communicable diseases such as tuberculosis and hepatitis. Therefore, poverty was explored as a potential influence on increased risk for cholera in migrant Haitian populations. This study found that poverty influenced cholera risk, but only amongst a specific sub-group of the population in the Dominica Republic, - those Haitian

migrants living in rural areas. This section explains how living in a rural location can place rural Haitian migrants at greater risk of cholera, and describe how poverty is linked to cholera risk.

Rural Areas and Cholera Risk

Dominican study participants in San Martine and La Enea, and Haitian participants in San Martine all reported having access to resources that aid in cholera prevention. Participants in each of the three previously listed subgroups all also had access to treated bottled drinking water. In urban areas in the Duarte Province, small *camiones*, or trucks stocked with five gallon plastic bottles of treated water, make their rounds night and day through neighborhoods, announcing their presence with reggaeton music, and advertisements for their particular brand of water that can be heard across several city blocks. In urban areas both Dominican nationals and Haitian migrants had access to these water trucks, and were able to purchase drinking water for their homes. *Agua Maria, Agua Rosa, Agua Azul, and Agua Pura* were all listed as participants' water brand of choice, each costing less than 35 pesos [$1 USD], including the price of *camiones* that deliver water and pick up empty bottles daily.

Haitians and Dominicans living in rural areas did not have the convenience of purchasing water from the *camiones* because poor road conditions limited travel to far reaching settlements like La Enea. Rural populations needed to travel by taxis between San Francisco de Macoris and La Enea if they wanted to purchase bottled water. However travel was limited to two taxis, or *gua-guas,* per day on weekdays, one *gua-gua* per day on weekends, no *gua-guas* per day in the event of inclement weather, and no water *camiones* ever. Instead, rural participants access treated drinking water as needed

from *colmados,* small neighborhood convenience stores that sold treated water and other goods to those who could afford it. At 60 pesos [$1.70 USD], the price of five gallons of bottled drinking water from a *colmado* was about double the price of water sold from the *camiones* in urban areas. While Dominican participants made no mention of these inflated prices, they proved to be cost prohibitive for rural migrants, who reported using water from open sources instead.

Poverty and Cholera

In San Martine, an urban study site, Dominican nationals and Haitian migrants lived in the same neighborhoods, had similar technical skills, and received the same salary for their work. Urban participants noted that the only factors influencing their risk for cholera in San Martine were eating contaminated food from street vendors, or not washing their hands after going to the bathroom. They did not describe influences linked to poverty as placing them at risk of cholera.

Conversely, in La Enea, the rural study site, Dominicans and Haitians experienced vastly different standards of living. Rural agriculture contributes largely to the Dominican economy, with the majority of land for crops including rice, bananas, and sugar cane being owned by wealthy Dominicans, but planted, tended, and harvested by Haitian migrant workers. A large gap in wealth between rural Haitians and Dominicans was described by Haitian migrants who reported poor living conditions and being underpaid for their daily labor on Dominican farms. The rural Dominican landowners who employed Haitian migrants were honest about what they paid migrants, giving credence to migrant workers' claims, and evidence for rural migrant poverty. One Dominican landowner stated "The Haitians just want you to take them to work…here to work in the

rediodales working with shovels, one day is worth about 500, 600 pesos [$14-17 USD], one day, but for a Haitian no, the Haitian does it for even 300 pesos [$8.50 USD]."

Based on this comment, it is common for rural Haitian migrants to earn only half of what their labor is worth. Given that the price of five gallons of treated bottled water from a rural *colmado* is about 60 pesos [$1.70 USD], or one fifth of a migrant laborer's daily wages, many rural migrants were not able to purchase treated drinking water. Instead they collected canal water or rain water and treated it with bleach, or by boiling it before consumption. Given the conditions of the canals (described below), this was an extremely risky behavior for cholera.

Canal Conditions

City dwellers and rural Dominicans all reported having running tap water in their homes. Despite the fact that municipal water sources in the Dominican Republic are not safe for drinking, the water flows through closed pipes and is less contaminated than water from open sources. Most participants used tap water for cooking, cleaning, washing clothes and bathing. Comparatively, no rural Haitian participants had access to a municipal water supply, and when asked where they got water from, all reported using water drawn from open and often contaminated sources such as rivers, aqueducts, and canals. One rural Dominican man stated that "All their fecal matter they throw into the canal… the canal has become the sewer of La Enea," while another participant reported that people threw "everything in the canal…dirty diapers, toilet paper, trash,…" A rural Haitian male noted that the sewage pipes from Dominican homes also flow directly into the canal.

This same canal water was used by rural Haitian migrants for cooking, cleaning, bathing and washing clothes. One female Haitian participant told researchers that some rural migrant populations even drank water from the canal, saying "Some people drink it... Some people don't put Clorox in it. Us women don't drink it, but some men will drink it if they're working." Because of the contaminants in this water source, the rural Haitian men who drank water from the canal were at an extremely high risk for cholera.

In summary, in urban study sites both Haitian and Dominicans had access to tap water for household uses such as cooking, cleaning and bathing, and affordable treated bottled water for drinking. Conversely, rural participants had very limited access to treated water. Although this water was overpriced, rural Dominicans were able to purchase it. However, many Haitian migrants who earned only about half the wages of a Dominican laborer could not afford treated bottled water. Additionally, rural migrants had no tap water in their homes, and engaged in extremely risky behaviors, drawing water for household use from contaminated canals. In this way, living in poverty in a rural area drove many of the risk behaviors that rural Haitian migrants engaged in. Study results showed that rural Haitian migrants were at a higher risk for cholera than Dominican nationals and urban Haitians.

Healthcare and Cholera Risk

This study has shown that rural Haitian migrants are at a greater risk for cholera because of their lack of access to tap water for household uses, and potable water for drinking. With regards to healthcare access, we assumed that Haitian migrants would be at a greater risk for cholera than Dominican nationals because Haitians did not have access to healthcare, while Dominicans did. However, the results of this study showed a

different perspective. While rural Haitian migrants were at a greater risk for cholera with regards to water, there was no clear link between access to healthcare and cholera risk in either the rural or urban Haitian migrants. Among study participants, both Dominican and Haitian, all had access to public hospitals, however, all also cited cost as a barrier to quality health care, and described substandard care in these affordable, but resource poor, public hospitals. The high cost of quality care, and conditions in hospitals were not related to cholera risk from the perception of participants. However, cost, the lack of quality care, and poor conditions in hospitals could have implications on the diagnoses and treatment of patients who present with symptoms of cholera. These issues were described by participants in every focus group, and will be briefly discussed here.

Government Health Insurance

According to study participants, there is government funded health insurance in the Dominican Republic, however, delineations around who receives that benefit, and how much the government is responsible for paying is unclear. In a focus group discussion amongst urban Dominican women, participants had differing experiences with government insurance and disagreed over the boundaries of government healthcare provision. One woman felt that insurance was lacking, stating that "the government should provide medications, but when it is time to give them out, they tell you, there isn't any…if you want a prescription you have to buy it." While another participant with government insurance had a more positive experience, and received more extensive services. She stated "I have insurance. I did a small operation in the hospital, *and* I was put on the anesthesia."

Aside from government funded health insurance, individuals with greater financial means were able to purchase private insurance at their own expense. Still, the majority of individuals had no form of health insurance at all. Urban Dominican participants who had no insurance reported having to pay for blood used during blood transfusions, surgeries, and prescriptions out of pocket, and noted that not everyone living in San Martine would be able to afford those expenses. A Dominican woman stated "…the truth has to be told, poor people who make just a small amount of money, who are for example, cleaning, sweeping, they don't have money for those [medical] expenditures."

For participants with some form of government provided health insurance, unclear understandings of what treatments and medications are actually covered, and the ability to afford the treatments that are not covered directly impacts their cholera risk. If they actually contract cholera, participants would have no way of knowing what cholera treatments are covered by their insurance, and which are not. Additionally, Dominicans and Haitians without any form of health insurance are left without the ability to afford treatment for cholera if they get sick.

Adequate Healthcare

Levels of healthcare facilities in San Martine and La Enea differ just as much as insurance options. *Polyclinicas*, or community clinics, are able to provide treatment for minor illnesses and require insurance or cash for services. Hospitals are usually larger, house more trained staff, and are able to provide care for complex cases and surgeries when the *Polyclinicas* are not able to do so. Within hospitals, there is the delineation between public and private, and this is the point that many study participants find

problematic. When asked "If someone in this community were sick, where would they go for healthcare?" all participants knew the location of the nearest health facility. However, they all described public facilities in conjunction with poor care, and private facilities in conjunction with cost as a prohibitive barrier to adequate care. An urban Dominican man described the distinction between public hospitals and private clinics in the following way: "In our country some hospitals exist that are extremely precarious, you understand, they have very little, um…very few resources, and they have a low economic level and a low health because they get the poorest people. The most poor people are those who visit the hospitals, you know, because it's certain that the people can't go to the rural clinics or to the private clinics."

Private hospitals require insurance or cash for services, have many resources including medical supplies, better trained staff, and space, and are able to provide adequate care. Conversely, public hospitals are free to the public, overfilled with patients, and are known to be unsanitary, understaffed, and often lacking in supplies such as IVs, needles, and surgical beds for patients. Unfortunately, many participants reported not being able to afford care at private hospitals, and had described poor conditions of public hospitals. One urban Haitian female respondent stated "There are some hospitals you go you will find blood on the ground, and most of the materials are unclean." These experiences were not unique to Haitian participants. An urban Dominican female respondent described public hospitals in the following way: "When you arrive at the center of the hospital here in San Vicente, there isn't even an adequate stretcher and they don't have personnel here, no ambulance when you arrive, never an injection to medicate you, you get tired of asking for help from a stretcher, and there you die. No one

comes…you arrive and they may put you on a stretcher, but from here to there you pass into decay."

Local *Polyclinicas* that could not provide extensive care, unaffordable private hospitals, and the poor care provided in public hospitals impacted participants treatment seeking behaviors and level of trust in medical providers. If participants actually contracted cholera, the severity of the disease would be greatly impacted as they might not seek treatment for the illness. Additionally, if participants did seek care in a public hospital, the chances that their provider would have the needed supplies to diagnose and treat cholera are not guaranteed.

All participants had access to some level of healthcare; however, the quality of that care was the cause for much discussion. Study participants from both study sites, and all nationalities described public hospitals that were affordable, but placed patients in very poor conditions and fail to provide adequate care. Cost was also stated as a prohibitive barrier to adequate care. Access to health care was not closely linked to the risk of contracting cholera, however, it was directly related to diagnosis, severity, and treatment of cholera should an individual contract it. The barriers that participants face with regards to acquiring adequate care were universal, and thus important to understand.

Haitian Discrimination and Cholera Risk

While all study participants encountered difficulty securing adequate healthcare, discrimination was uniquely experienced by Haitian migrants in the Dominican Republic. Previous descriptions of anti-Haitian discrimination showed a range of experiences including physical violence, structural violence, and general prejudice against Haitians. In this study, discrimination included experiences of physical violence, structural

violence, and anti-Haitian prejudices held by Dominican nationals. Physical violence was seen in the frequent occurrences of brutalization, robbery, and beating of Haitians, while structural violence manifested itself in the poverty faced by Haitian migrants. Additionally, anti-Haitian prejudices and stereotypes about Haitian skin color, intelligence and cleanliness known as 'Anti-Haitianismo' were mentioned by many Haitian migrants

Assumptions made in previous studies about the nature of discrimination and cholera risk in Haitian migrants included the idea that Haitian migrants were at a greater risk of cholera than Dominican nationals because of the discrimination that they had experienced. Physical and structural violence prevented migrants from being able to seek care, and engage in healthful, preventative behaviors. The findings of this study both support and refute those claims. It was found that Haitian migrants did not *perceive* discrimination as a factor directly related to their cholera risk, but in actuality, discrimination in the form of physical violence perpetrated against Haitian migrants, and structural violence including poverty, indirectly impacted migrants' risk for contracting cholera. These results are described below. Finally, these results show that in the wake of the Dominican cholera epidemic, discrimination in the form of *Anti-Haitianismo* prejudices have gotten even worse for migrants.

Physical Violence

Haitian migrant study participants described no direct links between discrimination and cholera risk, however, discrimination played a major, albeit, indirect role in migrants' ability to maintain a healthy lifestyle. In every focus group discussion with Haitian migrants, participants described experiencing physical violence personally,

or could recount stories of multiple Haitians at the center of mob violence at the hands of Dominican nationals. Rural Haitian men admitted to being robbed and beaten by Dominicans, and an urban Haitian woman told the story of violence perpetrated against a Haitian that affected the entire Haitian community where she lived. "For example there was a Haitian, who built his house with hard effort, while he was in a bad situation…with some Dominicans, some robbers came to his house, rob it and put it on fire. That was really stressing for the whole community"

Not only are these stories disturbing, but Haitian participants described them as common place in the Dominican Republic. The fear of physical violence could affect migrants' desire to venture out into their hostile community, even if they need to go in search of clean water or supplies needed to treat water such as bleach or purifying tablets.

Structural Violence

Structural violence is defined as any large- scale social structures, such as economic, political and cultural structures, that stop individuals, groups, and societies from reaching their full potential (Simmons, 2010). This type of structural violence was commonly experienced by Haitian migrants, and was described by both Haitian and Dominican participants. Many Haitians reported that they migrated to the Dominican Republic in search of better paying jobs than they could find in Haiti. However, upon arrival in the Dominican Republic, migrants reported being paid less wages for their work than Dominican nationals, and ended up living in extreme poverty. As was previously discussed, migrants lived in homes without running water or sewage systems. Additionally, a small portion of urban migrants worked in construction jobs, and lived in the semi-completed structures that they built- also without running water or sewage

systems. Because migrants didn't earn enough money to afford adequate housing, it was common to see multiple families living in one structure, and sharing sanitation facilities. In this situation, residents were not able to wash their hands after using sanitation facilities, increasing the chances that they would ingest cholera bacteria. Additionally, multiple families sharing sanitation facilities increased the likelihood that if one or more individuals were infected with cholera, the disease would be easily spread to housemates.

Even Dominican participants talked about the homes that Haitians lived in and the conditions of sanitation facilities that migrants used. One rural Dominican man described the Haitian living conditions that he had seen, saying "What happens with the Haitians is that they live in groups, very together, and it is a small space, they put 10 and 15 people and they don't even have a bedroom, it's only one room, they don't have a kitchen, they cook, bathe and sleep in the same place. So if they don't have a kitchen, it's even less likely they're going to have a latrine. So when they do their business they do it outside."

Haitian participants also described their inability to access supplies needed to treat water before using it in their households. One Haitian woman stated "In Haiti, you'll find it in any pharmacy, you'll find Aquatab. Here, if they have it, I don't know about it, or what it's called." A second study participant agreed, and added that "Clorox and Aquatab, are expensive around here."

Although participants themselves do not attribute structural violence to a greater risk for cholera, it can be seen that structural violence in the form of poverty was widely experienced by the Haitian migrants in this study. Poor living conditions, the inability to afford treated water or the supplies needed to treat water for household, and sharing unimproved sanitation facilities greatly increased migrants risk for cholera.

Anti-Haitian Prejudices

In the midst of physical and structural violence, there is the expression of anti-Haitian prejudices that Haitian migrants must also cope with on a daily basis. Anti-Haitian prejudices such as preconceived notions about Haitian's hygiene and intelligence were not linked to increased cholera risk; however, they were associated with cholera on a general level. One rural Dominican participant made derogatory comments about Haitians declaring that "I have never seen anything that smells as bad as those Haitians!"

In focus group discussions with both Haitians and Dominicans, participants made statements reflecting the fact that Dominican nationals blame Haitian migrants for the emergence of cholera in the Dominican Republic. One participant stated that "There is a lot of cholera here… and who has brought the cholera? Think about it, the Haitians have brought it with them because this illness wasn't here before." Dominicans associated cholera only with Haitians, assumed that any sickness that a Haitian had must have been cholera, and consequently, distanced themselves from Haitians. One rural Haitian participant described how Dominicans had started to act differently towards him, stating that "If you start to lose some weight…if you get a little thin they all think its cholera that you have." Another urban Haitian participant stated "I personally have a boss who is an attorney. I used to work with him. When we first met, it used to be that our contact was warm, but since cholera came, he just shakes hands, no more close contact. He will give you everything but he just back up." One Dominican man went so far as to speak openly about quarantining migrant Haitians to special government housing, or even employing mass Haitian deportation in order to solve the problem of cholera in the Dominican Republic.

Although the results of this study did not fully concur with previous assumptions, they provided a greater understanding of the experiences of Haitian Migrants in the Dominican Republic. Migrants did not perceive a relationship between cholera and discrimination, but discrimination manifested itself in physical and structural violence- both of which indirectly effected migrants' cholera risk. Also, Anti-Haitianismo prejudices were not associated with any sort of cholera risk behaviors in Haitian migrants, but it was certain that these prejudices had increased since cholera came to the Dominican Republic.

Cholera Risk Perception

Neither previous studies on cholera, nor studies addressing the life experiences of Haitian migrants in the Dominican Republic reported study participant's perceptions of cholera risk. The concept of risk perception emerged as participants explained what they knew about cholera, the steps they would take to prevent catching the illness, and how able they were to actually do so. Study participants could be categorized into two groups with regards to their risk perception. One group had little knowledge of cholera, felt little prevention agency, and engaged in multiple risk behaviors, while the other group had knowledge of cholera, perceived agency in preventing cholera, and still did not engage in preventative behaviors. Both groups did not perceive a great risk for contracting cholera. The characteristics of these two groups and their implications for the spread of cholera in the Dominican Republic will be discussed below.

Group One: Rural Haitian Men and Women and Urban Haitian Men

For this group of participants, risk perception encompassed cholera knowledge, prevention, and participant behaviors. The first group of participants in this study was composed only of Haitian migrants including rural Haitian men and women and urban Haitian men. This group of participants had a general lack of knowledge of cholera. Haitian men were those with the least knowledge of cholera, and some reported that they had not received any cholera prevention messages in the Dominican Republic. One rural Haitian male stated, "We haven't received any messages. Maybe because we don't have a public health department around here, and the hospitals are far away. There isn't anyone who has ever come by because you know around here is a place that is to the side."

Additional participants demonstrated the result of the dearth of education in their communities surrounding cholera. When asked about ways that one could contract cholera, rural Haitian women sited breathing dirty air, touching mud, and coming in contact with livestock. Haitian participants also spoke about their lack of agency in preventing themselves from catching cholera. When asked what they could do to prevent the spread of cholera in their community, many respondents expressed powerlessness, and a dependence on God to keep them healthy. An urban Haitian man stated, "About cholera we can only ask God to protect us even more than he used to do it before. Because there is definitely nothing one can do to avoid it. Cholera just occurs and is destroying folks. We do not know where it comes from."

The risk behaviors described by this group of participants were directly related to their low perceptions of risk. Given that participants had not received messages about cholera prevention, did not have knowledge of cholera symptoms and transmission, and

did not have the agency to prevent themselves from catching it, they had a minimal perception of risk, and were more likely to engage in risky behaviors including not washing hands after using the bathroom, and drinking water drawn from the canal. This fact definitely has implications for cholera risk in rural Haitian men and women, and urban Haitian men because it was possible that participants engaging in risky behaviors did not understand the consequences of their actions, and were encouraging the spread of cholera.

Group Two: Urban Haitian Women, and all Dominican Subgroups

The second group of participants was larger and included urban Haitian women, and all Dominican participants. Previous assumptions would have placed urban Haitian women in the first group; however, they possessed unique characteristics that caused their responses to be categorized with those of Dominican nationals. Of all of the migrant Haitian subgroups in this study, urban Haitian women seemed to be in a unique position as they did not report personal experiences of discrimination, and had greater access to education. These experiences may not be representative of all female urban Haitian migrants in the Dominican Republic, and could differ based on the female's age, or city of residence. However, of the urban Haitian women in this study, three out of five had received education in the Dominican Republic, were able to speak Spanish, and understood prevention messages that were targeted towards Dominicans thus increasing their knowledge of cholera.

This group of participants had knowledge of cholera, and felt empowered enough to prevent cholera in themselves and their communities, however, they still did not take preventative precautions. Participants were able to describe their receipt of cholera

messages from multiple sources including from church, school, radio, television, in hospitals and clinics, at their places of work, and in neighborhood health discussions called *charlas.* Additionally, this group of participants demonstrated their knowledge of cholera in responses to the question "How does one become infected with cholera?" A rural Dominican man stated plainly, "Through contaminated food, basically from fecal material and through the water that is contaminated with it." In a discussion with urban Haitian women respondents said that "You can get cholera in so many ways. When you go to the bathroom and come out without washing your hands, and eat your food with unclean hands, you'll get cholera." Also, other women in this discussion mentioned treating water with Clorox, or Aquatab, and washing food with treated water, demonstrating knowledge of prevention behaviors.

Prevention agency in this group was an interesting concept. Participants often knew exactly what to do to prevent cholera, and stated that engaging in those behaviors was easy, but they still did not do them because they believed those behaviors had no effect on their risk for contracting cholera. The same women who demonstrated knowledge of cholera transmission and prevention, stated "It's [prevention behaviors] just a suggestion. I sometime see people practicing hygiene for themselves to avoid getting cholera, and I see those people who were practicing it get cholera. But I, who do not practice hygiene; I do not get it." Urban Dominican men also followed a similar pattern stating that foods purchased from street vendors were often contaminated with various bacteria. However, when asked about consuming those foods, all of the men stated that they still consume food from street vendors on a regular basis. These participants were openly stating that they did not engage in prevention behaviors, not

because they were prohibited by some external factor, but because they simply chose not to.

Risk perception in this group of study participants was a function of their receipt of prevention messages, the knowledge of cholera that they possessed, and the fact that they were not actively engaging in prevention behaviors to protect themselves from catching cholera. It is possible that because none of the participants had ever had cholera, they did not perceive it to be particularly severe or an easily transmissible illness. This group showed that in some subgroups of the population in the Dominican Republic, the spread of cholera is not necessarily linked to knowledge or resources, but behavior. While marginalized groups such as rural Haitian migrants may have been at a greater risk for cholera because they had limited knowledge, and access to treated drinking water, individuals who did have those luxuries might still have been at risk because they do not engage in prevention behaviors.

Here risk perception described the participant's knowledge of cholera with regards to transmission and prevention, their perceived agency in prevention, and the behaviors surrounding that knowledge and agency. Rural Haitian men and women in La Enea, and urban Haitian men in San Martine had a low level of risk perception because they did not have the knowledge needed to fully understand the link between transmissibility and risk behaviors. Urban Haitian women, and Dominican natives had an equally low risk perception, however, the source of their perception was based on personal choice as opposed to a lack of knowledge. Both groups seem to be facilitating the transmission of cholera, just in different ways.

Conclusion

Initially this study sought to gain a greater understanding of the ways that poverty, a lack of access to healthcare, and discrimination could lead to a greater cholera risk than Dominican nationals for Haitian migrants living in the Dominican Republic. It was found that poverty prevented rural Haitian migrants from being able to access running water in their homes and workplaces, and many migrants did not have the resources to purchase treated bottled water, or the items needed to treat their water. Healthcare was a unique factor in that it was not related to the risk of contracting cholera; however, the lack of access to quality care that could potentially have impacts on cholera severity, diagnosis and treatment was a pervasive theme across all nationalities and geographical locations. Discrimination was described in every focus group with Haitian participants. The discrimination was often expressed in physical and structural violence- which has the greatest impact on cholera risk for migrants. Additionally, anti-Haitian prejudices also increased as Dominicans blamed Haitians for cholera in the Dominican Republic. A Lack of risk perception was also discovered, as many participants had knowledge of preventative behaviors, but chose not to engage in them to reduce their risk of contracting cholera

CHAPTER FIVE: DISCUSSION

Introduction

This discussion chapter will review the findings of this research study as they relate to migrant Haitian poverty, a universal lack of access to adequate healthcare, anti-Haitian discrimination, and cholera risk perception. This study's findings will be placed in comparison to those of previous studies discussed in the literature review. Instances where this study supported previous literature and novel results will both be highlighted. This discussion will also include recommendations to the Ministry of Health in the Duarte Province, suggesting interventions aimed at reducing cholera risk, and improving the health outcomes of Dominicans and Haitian Migrants. Finally, general recommendations for future cholera related research in the Dominican Republic will be given.

New and Supported Findings

Rural Migrant Haitians' Cholera Risk

Cholera bacterium thrive in contaminated water, therefore the risk of contracting the illness is greatly influenced by the quality of water used. Although, previous studies indicate that all migrants are at risk for cholera due to their poor access to clean water (Dominguez, 2011; ICDDR, 1993; PAHO, 2011; Sack, 2004), this study showed that this risk is concentrated on rural migrants who are unable to access treated water from water trucks, or pay the higher cost of treated water from rural vendors. Due to this poverty cycle, rural migrants often used contaminated water for daily needs, increasing their risk of contracting cholera.

Poverty and Rural Migrant Haitians

While poverty affects rural migrants, urban Haitian migrants and Dominicans were not subject to these factors because they had ready access to municipal water supplies and treated bottled water. Rural Dominicans also had running water in their homes, and transportation to go into urban areas and purchase lower priced water.

The major predictor in rural Haitian migrants' cholera risk is the low wage that they are paid for their labor. Rural migrants, who commonly work for half of the established rate, would benefit greatly from increased pay. However, because this change is dependent on migrants' employers, and greater economic factors, it is not likely that migrants will experience pay raises. The World Health Organization (2006) estimates that for each $1 invested in water and sanitation, the "economic rate of return in regained time at work and school, time saved at home by not hauling water, increased productivity, and reduced health costs would be as much as $8, in addition to the direct health benefits." Although the Provincial Ministry of Health in the Duarte Province has no bearing on migrants' wages, Ministry officials could incentivize rural venders to lower prices of treated bottled water, and provide supplies needed to treat water such as bleach and purifying tablets for migrants at a reduced cost.

This study supported findings of previous studies of cholera risk (Hunter et. al., 2010; O'Connor et al., 2011; Snow, 1855; WHO, 1985;), with regards to water quality and disease transmission; however these studies did not explore in detail the reasons why rural migrants were at a consistently higher risk, this study highlights that low wages and inability to afford treated water, or treatment supplies contributes to rural migrants'

greater risk of cholera. There is a need for further research to understand the degree to which rural migrants are able to cope with these factors and prevent disease. Studies investigating possible disease prevention, coupled with cholera surveillance could identify migrants' actual success in cholera prevention.

Healthcare Access and Cholera Risk

This study identified the nature of healthcare access for Haitian migrants, and found issues related to healthcare access for Dominican nationals as well. All populations experienced reduced access to healthcare because government insurance was insufficient to cover their medical needs, and private insurance was too costly. Additionally, care provided at free, public hospitals was poor. Provision of care was related to the diagnoses, severity, and treatment of cholera should an individual contract the illness.

Participants and Healthcare Access

Factors including poor conditions in hospitals and inadequate care impact the cholera treatment seeking behaviors of Dominican nationals and Haitian migrants. Study participants expressed hesitance to go to the hospital when suffering from *any* illness, so the likelihood that they would go when experiencing cholera symptoms is low. Local hospitals function as the link between patients and the Ministry of Health, and are extremely important in the reporting of new cholera cases to health officials, so community members' hesitancy to go to hospitals has a wide range of consequences. In the short term, modified treatment seeking behaviors could lead to underreported and untreated cases of cholera. However, long term effects include the increased likelihood of disease transmission in affected communities as cases go untreated. Also, the Provincial

Ministry of Health would have limited knowledge of the number of actual cases, and the needed recourses to prevent cholera.

Although the need for increased standards of care at public hospitals is great, this would be a difficult and time consuming task to accomplish. Thus, surveillance efforts could be increased through urging individuals to go to hospitals and complete medical testing for any cholera-like symptoms. This would create a change in community treatment seeking behaviors, empower individuals to be responsible for their health, and potentially reduce the severity of new cholera cases. Additionally, with more thorough surveillance, the Ministry of Health would gain knowledge of the necessity and scope of community level preventative interventions.

Previous studies about barriers migrants' face in seeking healthcare found fear of deportation, and inability to navigate foreign healthcare systems as key obstacles (Farmer et al., 2006; Gushulak & MacPherson, 2006; Hadley, 2010; Holmes, 2011; Simmons, 2010). However, in this study migrant Haitians did not address any of the previously mentioned factors as barriers to their health care. Instead they mentioned the cost of insurance, and the poor quality of care in many public hospitals- the very same complaints that Dominican participants expressed. It is possible that previous studies did not take into account the status of the healthcare system that the entirety of the population was subject to. Future studies could consider the condition of Dominican facilities and the structure of the national healthcare system, when examining barriers to care. Highlighting these factors would help researchers to understand and mitigate the barriers faced by Dominicans in addition to Haitian migrants.

Haitian Discrimination and Cholera Risk

Previous descriptions of anti-Haitian discrimination included physical and structural violence, and anti-Haitian prejudices and stereotypes held by Dominicans (Ferguson, 2003; Grasmuck, 1982; Howard, 2007; Simmons, 2010; Tavernier, 2008). Participants' experiences of discrimination mirrored those in previous studies, and were common in the Haitian migrant community regardless of whether migrants were living in rural or urban areas. One novel concept that emerged was that anti-Haitian prejudices had increased as a result of the cholera epidemic in the Dominican Republic.

Haitian Migrants and Increased Discrimination

Although anti-Haitian discrimination by Dominicans is not a new occurrence, cholera has seemingly given credence to stereotypes about Haitians being dirty, unhygienic, and carriers of various diseases. Dominican participants openly stated that they attributed the emergence of cholera cases in their communities to the Haitians who lived there. This is problematic because many of the accused migrants had not traveled to Haiti in recent years, and never witnessed a case of cholera in their communities. This dichotomy in the beliefs of Haitians and Dominicans actually speaks to a greater issue. Did cholera travel to the Dominican Republic in tainted food? On contaminated waterways? Did it come in the digestive systems of ill Haitians? There are still discordant ideas on how cholera traveled from Haiti to the Dominican Republic, however, Dominicans and Haitian migrants are living as though Haitians are certainly to blame (Archibold, 2011; Dominguez, 2011; O'Connor et al., 2011). This belief manifests

itself in increased prejudices held by Dominicans, while migrants are powerless to change Dominican opinions.

The Dominican cholera epidemic is a recent phenomenon, emerging only three years ago; therefore there has been little research on the intersection of cholera and discrimination for Haitian migrants in the Dominican Republic. Future research could investigate migrant reactions to increased discrimination, and the most efficacious ways to reduce anti-Haitian prejudices. Unless the beliefs held by Dominicans can be challenged by clear, evidence based research, they are likely to persist. There is also a need for research on the actual origins of cholera in the Dominican Republic that explores all possibilities.

Finally, once knowledge of cholera's origin is confirmed, the Provincial Ministry of Health would be integral in creating change, as the translation of research to community based interventions and education will be necessary to transform widely held norms that use Haitian migrants as scapegoats.

Cholera Risk Perception

While studying risk in relation to poverty, healthcare and discrimination, it emerged that participants' individual perception of cholera prevention, severity, and transmissibility was an integral factor in characterizing their risk. This fact was applicable to all study participants; however, their risk perception was able to be stratified into two groups. The first group of participants included rural Haitian men and women, and urban Haitian men, and the second included Urban Haitian women and all Dominicans. Both groups had a low level of risk perception, but for different reasons.

Participants and Low Risk Perception

All rural migrants and urban male migrants expressed an overall lack of knowledge about cholera. When asked about cholera transmissibility, and ways to prevent cholera, this group of migrants had extremely limited knowledge of the disease. Many of the Haitian migrants in this group had received little to no information about cholera. Almost all spoke limited Spanish, and could not understand cholera prevention messages in Spanish. This lack of knowledge led to a decreased perception of cholera risk, and an increased chance that migrants could engage in risky behaviors, contract and transmit cholera without ever realizing their danger.

Remaining study participants, including female urban Haitian migrants, and Dominican nationals, also displayed a low perception of their risk for contracting cholera. Unlike the previously mentioned migrants, this group had received thorough cholera education, but still chose not to engage in preventative behaviors. Many participants' perception of risk was so low because they had not seen anyone engage in risky behaviors and actually contract cholera. As urban participants were not drinking canal water, their behaviors could be seen as less risky; however, they are no less dangerous. Given conditions in local hospitals, and the inability to afford quality care that all participants expressed, if any urban Haitian females or Dominican participants were to contract cholera, the disease would likely be severe, and still go untreated.

The comparison of risk perception in these two groups yielded interesting results, and clarified questions about the nature of risk in each nationality, and rural and urban study sites. Rural Haitian migrants and urban Haitian males revealed a great need for

increased cholera education, and prevention messages targeting vulnerable populations such as recent Haitian migrants, those who live and work in rural areas, and individuals who miss prevention messages because of the language barrier. Successful health promotion messages targeting these groups with the aim of education, could ultimately work to reduce the incidence of new cases of cholera in vulnerable populations.

The development and implementation of health education campaigns for Dominicans and urban Haitian women are integral to raising awareness about the facts of cholera prevention, and disease severity for individuals who present with symptoms. Ideally these interventions would reduce feelings of indifference towards cholera and its effects. Additionally, the urban Haitian women in this study were educated in the Dominican Republic, could speak Spanish, and had received health promotion messages regarding cholera. As they successfully navigate Dominican and Haitian culture, these women could be a valuable asset to Dominican health officials helping to aid in the creation of culturally appropriate materials for Haitian migrants.

Conclusion

The rich history shared by the Dominican Republic and Haiti, the circular migration patterns of Haitians across Hispaniola, and the unique cultural beliefs and practices that seem to both unite and divide Haitians and Dominicans are all factors that provide context for the current cholera epidemic in the Dominican Republic. This study sought to characterize cholera risk for Haitian migrants who live and work in that context, and experience poverty, a lack of access to health care, and discrimination. Poverty was directly related to cholera risk for rural migrant Haitians, while Haitians and

Dominicans both had experienced poor care in hospitals. Discrimination was unique to Haitian migrants, and affirmed the idea that Dominicans blamed them for the emergence of cholera in the Dominican Republic. A lack of knowledge about cholera and its severity led to low risk perception in all study participants.

In order to prevent the transmission of cholera, there is an overall need for health promotion programs designed to increase knowledge about cholera in both Haitian and Dominicans in the Duarte Province. The lack of cholera knowledge exhibited by Haitian migrants could be addressed with the creation of culturally appropriate education materials. Additionally, increased disease surveillance and notifications of new cholera cases would allow Dominicans to see that cholera is not just a Haitian illness.

Increased disease surveillance, and culturally appropriate health promotion programs targeting Dominican nationals and Haitian migrants could be the key to ebbing the cholera epidemic in the Dominican Republic. While the Provincial Ministry of Health works to preserve the health of community members, increased research on cholera knowledge, the effects of discrimination on cholera risk for Haitian migrants, and the ways that cholera prevention can be a collaborative effort would supplement their work.

REFERENCES

Ackers, M., Quick, R., Drasbek, C., Hutwagner, L., Tauxe, R. (1998). Are there national risk factors for epidemic cholera? The correlation between socioeconomic and demographic indices and cholera incidence in Latin America. *International Journal of Epidemiology.* 27(2): 330-334.

Ali, M., Lopez, A., You, Y., Kim, Y., Maskery, B., Clemens, J. (2012). The global burden of cholera. *Bullworth Health Organization*. 90(3):209-218A.

Amnesty International (2007). Dominican Republic: A life in transit. The plight of Haitian migrants and Dominicans of Haitian descent. Retrieved September 22, 2012. From http://www.amnesty.org/en/library/info/AMR27/001/2007

Amnesty International. (2011). Dominican Republic must stop forcible deportation of Haitians. Retrieved September 22, 2012. From http://www.unhcr.org/refworld/docid/4d2c154014.html

Archibold, R. (2011). As refugees from Haiti linger, Dominicans' good will fades. *New York Times*. Retrieved from http://www.nytimes.com/2011/08/31/world/americas/31haitians.html?pagewanted=

Bartlett, L. et al. (2011). State literacies and inequality: Managing Haitian immigrants in the Dominican Republic. *International Journal of Educational Development*. 31: 587-595.

Cavallo, E., Powell, A., Becerra, O. (2010), Estimating the direct economic damages of the earthquake in Haiti. *The Economic Journal*. 120: F298–F312. doi: 10.1111/j.1468-0297.2010.02378.x

Centers for Disease Control and Prevention (CDC). (2010). Cholera outbreak: Haiti. *Morbidity and Mortality Weekly Report*. November 5; 59 (43): 1411.

Dominguez, L. (2011). Casos suspechos de colera 2011. Duarte Province Ministry of Health.

Farmer, P. et al. (2006). Structural violence and clinical medicine. *PLoS Medicine*. 3(10): 449.

Farmer, P. et al. (2011). Meeting cholera's challenge to Haiti and the world: A joint statement on cholera prevention and pare. *PLoS Medicine.* 5 (5): e1145.

Fassin, D. (2011). Policing borders, producing boundaries. The governmentality of immigration in dark times. *Annual Review of Anthropology*. 40: 213-226.

Ferguson, J. (2003). Migration in the Caribbean: Haiti, the Dominican Republic, and beyond. *Minority Rights Group International*. 1-44.

Ferguson, J. (2006). The Haitian migrant minority in the Dominican Republic: Intra-Caribbean migration and the conflict nexus. Ottawa: Tri-Graphic Printing, Ltd.

Gates, H. (2011). Black in Latin America. New York University Press, New York, New York.

Gibbs, A. (1997). Focus groups. *Social Research Update*. *19*(8).

Global Task Force on Cholera Control. (2012). Prevention and control of cholera outbreaks: WHO policy and recommendations. Retrieved September 20, 2012. From http://www.who.int/cholera/technical/prevention/control/en/index.html

Government of the Dominican Republic. Reformas Anteriores. Retrieved September 20, 2012. From http://www.consultapopular.gov.do/reformas-anteriores.html

Grasmuck, S. (1982). Migration within the periphery: Haitian labor in the Dominican sugar and coffee industries. *International Migration Review*. 16(2): 365-377.

Gushulak, B., MacPherson, D. (2006). The basic principles of migration health: Population mobility and gaps in disease prevalence. *Emerging Themes in Epidemiology* 3(3).

Hadley C. (2010). The complex interactions between migration and health: an introduction. NAPA Bulletin. 34: 1-5.

Hansen, E., Donohoe, M. (2003). Health issues of migrant and seasonal farm workers. *Journal of Health Care for the Poor and Underserved*. 14 (2): 153-164.

Holmes, S. (2006). An ethnographic study of the social context of migrant health in the United States. *PLoS Medicine.* 3(10): e448.

Holmes, S. (2011). The clinical gaze in the practice of migrant health: Mexican migrants in the United States. *Social Science and Medicine*. 1-9.

Howard, D. (2007). Development, racism, and discrimination in the Dominican Republic. *Development in Practice*. 17(6): 725-738.

Human Rights Watch. (2002). Illegal people: Haitians and Dominico-Haitians in the Dominican Republic. *Human Rights Watch Report*. 14(1).

Hunter, P. et al. (2010). Water supply and health. *PLoS Medicine.* 7(11): e1000361.

International Center for Diarrheal Diseases Research, Bangladesh (ICDDR). (1993). Large epidemic of cholera-like disease in Bangladesh caused by Vibrio choleraeO139 synonym Bengal. *The Lancet*. 342(8868): 387–390.

International Office for Migration. (2010). IOM assists Haitian migrants displaced by the 12 January earthquake. Retrieved September 21, 2012. From

http://www.iom.int/jahia/Jahia/media/press-briefing-notes/pbnAM/cache/offonce?entryId=27360

Kitzinger, J. (1994). The methodology of focus groups: The importance of interaction between research participants. *Sociology of Health and Wellness.* 16(1): 103-121.

Koch, R. (1894). An address on cholera and its bacillus. *BMJ*. 2: 453–459.

Kushner, J. & Coto, D. (2011). Dominican Republic deports illegal Haitian migrants. *Washington Times*. Retrieved from http://www.washingtontimes.com/news/2011/feb/21/dominican-republic- deports-illegal-haiti-migrants/?page=all

Lotoure, P. (1985). Haitian migration to Santo Domingo. *Estudios Social*. 18(59):43-59.

Lowery, A. (2010). Cancel Haiti's debt. *The London Times.* Retrieved from http://blog.foreignpolicy.com/posts/2010/01/13/cancel_haitis_debt

Malmusi, D. et al. (2010). Migration-related health inequalities: showing the complex interactions between gender, social class, and place of origin. *Social Science and Medicine*. 71: 1610-1619.

Martin, P., Midgley, E., Teitelbaum, M. (2002). Migration and development: whither the Dominican Republic and Haiti? *International Migration Review*. 36(2): 570-592.

Martínez, S. (1999). From hidden hand to heavy hand: sugar, the state, and migrant labor in Haiti and the Dominican Republic. *Latin American Research Review*. 34 (1): 58-85.

MAXQDA, software for qualitative data analysis, 1989-2013, VERBI Software – Consult – Sozialforschung GmbH, Berlin, Germany.

Mekalanos, J., Rubin, E., Waldor, R. (1997). Cholera: molecular basis for emergence and pathogenesis. *Fems Immunology and Medical Microbiology*. 18(4): 241-248.

Mendoza, C. et al. (2011). Preparing health care workers for a cholera epidemic, Dominican Republic, 2010. *Emerging Infectious Diseases*. Retrieved September 21, 2012. From http://dx.doi.org/10.3201/eid1711.110703.

Mocombe, P. (2010). Why Haiti is maligned in the western world: The contemporary significance of Bois Caiman and the Haitian Revolution. *Encuentros.*16: 31-43

Moe, C., Rheingans, R. (2006). Global challenges in water, sanitation, and health. *Journal of Water and Health* 4 Supp 1: 41-57.

O'Connor, K. et al. (2011). Risk factors early in the 2010 cholera epidemic, Haiti. *Emerging Infectious Disease* 17(11): 2136-2138.

Pan-American Health Organization (PAHO). (2011). Atlas of cholera outbreak in La Hispaniola and cholera treatment facilities in Haiti: 2010-2011. Last updated September 23, 2011. Retrieved September 22, 2012. From http://new.paho.org/hq/images/Atlas_IHR/CholeraHispaniola/atlas.html.

Partners in Health (PIH). (2010). PIH responds to cholera outbreak in Haiti. Retrieved November 1, 2012. From http://www.pih.org/blog/entry/pih-responds-to-cholera-outbreak-in-haiti/

Quick, R. et al. (1996). Using knowledge, attitudes, and practices survey to supplement findings of an outbreak investigation: cholera prevention measures during the 1991 epidemic in Peru. *International Journal of Epidemiology* 25(4): 872-878.

Rogozinski, J. (2000). A brief history of the Caribbean. Penguin Books

Sack, D., Sack, R., Nair, G., & Siddique, A. (2004). Cholera. *The Lancet*. 363(9404): 223-233.

Sagás, E. (1993). A Case of Mistaken Identity: Anti-Haitianism in Dominican culture. Retrieved September 23, 2012. From www.webster.edu/~corbetre/haiti/misctopic/dominican/antihaiti.htm.

Sargent, C., Larchanché, S. (2011). Transnational migration and global health: the production and management of risk, illness, and access to care. *Annual Review of Anthropology*. 40: 345-361.

Simmons, D. (2010). Structural violence as social practice: Haitian agricultural workers, anti-Haitianism, and health in the Dominican Republic. *Human Organization*. 69 (1): 10-18.

Snow, J. (1855). On the mode of communication of cholera. New Burlington Street. London, England: John Churchill.

Tappero, J., Tauxe, R. (2011). Lessons learned during public health response to cholera epidemic in Haiti and the Dominican Republic. *Emerging Infectious Disease*. 17(11): 2087-2093.

Tavernier, L. (2008). The stigma of blackness: Anti-Haitianism in the Dominican Republic. *Socialism and Democracy*. 22(3): 96-104.

The World Bank. (2012). Data: Haiti. Retrieved September 21, 2012. From http://data.worldbank.org/country/haiti

United Nations Development Programme. (2006). Human development report: Beyond scarcity: Power, poverty and the global water crisis. Retrieved March 22, 2013. From http://hdr.undp.org/en/reports/global/hdr2006.

Ward, L. (2003). Race as a variable in cross-cultural research. *Nursing Outlook*. 51 (3): 120-125.

Watkins, T. (2000). Political and economic history of Haiti. San Jose University Economics Department. Retrieved May 1, 2012. From http://www.sjsu.edu/faculty/watkins/haiti.htm.

WHO/UNICEF Joint Monitoring Program for Water Supply and Sanitation. (2010). Progress on sanitation and drinking water. WHO/UNICEF: Geneva.

WHO/UNICEF Joint Monitoring Program for Water Supply and Sanitation. (2012). Progress on sanitation and drinking water. WHO/UNICEF: Geneva.

World Health Organization. (1985). Recent advances on cholera research. *Bulletin of the World Health Organization*. 63 (5): 841 – 849.

Wucker, M. (1999). Why the cocks fight: Dominicans, Haitians and the fight for Hispaniola. Union Square West, NY: Hill and Wang.

APPENDICES

Appendix A: Focus Group Discussion Guide

Introduction:

"Hello and thank you all for participating in this research study today. My name is [insert name] and I am a research assistant working with students from Emory University in the United States. [Introduce Emory student]

"We are interested in learning about cholera in your community. I have learned about cholera in the Dominican Republic, but your own experiences and ideas will help me understand the situation better. Today, I'd like for us to discuss cholera risk in this community. Your contribution is very important to our study, so please share your opinions during the discussion."

"There are a few things I must say before we get started. First, everything that we talk about will be confidential. Your name or anything else that can identify you will not be shared with others outside this focus group or outside the context of this research project. Secondly, I would like to record our discussion today so that I can listen to it later, and be sure that I didn't miss anything. Would it be OK to record this discussion?

"We don't want to offend anyone in the group, so please be courteous to other members of the group, and try not to talk while someone else is talking. We want people to feel comfortable in expressing what they think, so each person should only speak about what they are comfortable talking about, and nobody is obligated to answer if they don't want to. Finally, we must all agree that we will not share what someone here says with other people outside this focus group. Is this OK with everyone?

"Our group discussion will last about an hour in total, we really hope that you will stay for the entire discussion, but if anyone needs to leave the discussion that would be ok. If you have any questions for me, please feel free to ask them now.

"Ok, let's get started!"

Focus Group Activity: Community Mapping

Focus group participants will create a community map. The purpose of this activity is to understand participant's perceptions and awareness of their community with regards to Haitian/ Dominican interactions, and the occurrence of cholera risk factors. The group will be given a large sheet of paper, and several markers. The research assistant will inform participants of the purpose of the activity in the following way:

"First, we will do a group activity. Before we begin the activity, let's go around and introduce ourselves. Please share your first name, and how long you have been living in [community name]. We want to know more about your community. In this activity, you all will be drawing a map of this community. We want to know where people live and work. We are also interested in where people get their water from, and where they go to the bathroom. Areas where people have gotten cholera will also go on this map. Please draw a community map with the following:"

- *Draw where Haitians live.*
- *Draw where Dominicans live.*
- *Draw healthcare facilities.*
- *Draw where Haitians work.*
- *Draw where Dominicans work.*

- *Draw where people buy food/ clothes from.*
- *Draw where people get their water from.*
- *Draw where people bathe.*
- *Draw where people go to the bathroom/ community latrines.*
- *Draw areas where it is easy to get cholera*

Follow up questions from the focus group discussion guide, and based on what is drawn will be asked.

Focus Group Activity: Free-listing

"I would now like to invite everyone to participate in an activity in which you think of as many possible answers as possible to the question. An assistant will write down each of your answers and then we'll discuss them together. You may think of different ways to answer the question, and that is fine. Please, only provide one answer at a time."

- Where do people in this community get education about Cholera?
- What are the ways in which someone in your community can get cholera?
- What can people do to prevent getting cholera?
    - Is it easy to do that in this community?
- If someone in this community were sick, where would they go for care?
    - Is it easy to get care in this community?
    - Why?

Key Questions:

"*Let's continue our discussion to find out more about this community, and cholera in the Dominican Republic.*"

1. [For Haitians]: How do Haitians come to live and work in the Dominican Republic?
2. Why do Haitians come to live in this community?
3. What makes the problem of cholera in the Dominican Republic different from the problem in Haiti?
4. How do you perceive the Haitians/ Dominicans?
5. How do the Haitians/ Dominicans perceive you?
6. How has this community changed since cholera came to the Dominican Republic?
    a. How have relationships with neighbors/ people in the community changed?
7. Who do you think has responsibility for preventing cholera from spreading?
    a. Why?
    b. Are they doing what they should do?

Closing Questions:

"Finally, we're going to get your opinions on the most important issues that we talked about today.

8. If you could fix one of the issues that we talked about today, which one would you fix? (Spanish)
9. If you could make the problem of cholera in your community better, what would you do? (Kreyol)

Conclusion:

"Thank you all so much for participating in this discussion today. We appreciate all of your thoughts and suggestions. Again, if anyone has any questions, please feel free to ask them now."