

THE PENNSYLVANIA STATE UNIVERSITY
SCHREYER HONORS COLLEGE

DEPARTMENT OF INTERNATIONAL POLITICS

DOES UNITED STATES HEALTH AID WORK? AN EXAMINATION OF HEALTH
PROGRAMS FUNDED BY THE UNITED STATES AND THEIR RELATIONSHIP TO
HEALTH OUTCOMES IN MEXICO FROM 1997-2015

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SPRING 2019

A thesis
submitted in partial fulfillment
of the requirements
for baccalaureate degrees
in International Politics and Spanish
with honors in International Politics

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ABSTRACT

This paper adds to the complex debate about health aid. By analyzing health aid flows from the United States to Mexico during a critical period of global health engagement (1997-2013), this paper was able to discern if statistical relationships exist between health aid funding and health outcomes in Mexico. The United States committed funding to HIV/AIDS programs, infectious disease/TB programs, and maternal/child health programs in Mexico across this time period. Using correlational and regression models, this paper found that while the US committed the most funding to HIV/AIDS and infectious disease/TB programs, it demonstrated little to no relationship with health outcomes in Mexico. This research supports a critical examination of the manner in which the United States spends resources on health programs in Mexico.

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ACKNOWLEDGEMENTS

This project would not have come to fruition if not for the wonderful guidance of Dr. Gary King. From the first of our many meetings in Saints Café, he understood that my passions lie within health policy and international development and helped orient this thesis towards these topics. Thank you to Dr. Hojnacki for her feedback throughout the last year. Her honest and crucial comments on my writing were instrumental in building a stronger theoretical framework and literature review section. Thank you to my awesome Mother and Stepfather, Jennie and Chad, for walking me through statistical analyses several times and encouraging the direction of my work.

Chapter 1

Introduction

The preamble of the constitution of the World Health Organization states that “the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.” This value has been embraced by countries and organizations across the world as global health has acquired more importance in international politics. Nations are beginning to realize that diseases have no borders and it is in the collective interest of the world community to pay attention to health issues. Further, this shift towards prioritizing health generates important questions of how to best address health issues and whether global health aid actually benefits recipient populations.

One of the great triumphs of the past twenty years has been the adoption of, commitment to, and progress made on the United Nations Millennium Development Goals. Crafted in 2000, the goals indicate the commitment that the world has made to improving global health. Each of the goals concern health in some way or another, while three of them directly target health. Goal number four is “to reduce child mortality,” goal number five is “to improve maternal health” and goal number six is “to combat HIV/AIDS, malaria, and other diseases” (World Health Organization). Importantly, the goals helped to form partnerships between global health actors to keep close track of health indicators and their improvements within and across countries and regions. The goals also set achievable levels of health and helped guide global health actors in their pursuits to improve health.

With the initiation of the Millennium Development Goals, countries began to increase the number of dollars given to countries to fight poor health and the circumstances that relate to poor health (poverty, lack of education, poor sanitation). The United States has historically provided the bulk of the monetary resources towards improving global health, allocating \$143.1 billion just between 1990 and 2014 (Dieleman et al., 2015). An obvious commitment to global health is highlighted by this number.

The country increased its health aid commitments during the HIV/AIDS epidemic in the 1990s. President Clinton oriented several policy initiatives towards the disease. (Kaiser Family Foundation (KFF)). At the turn of the century, US Congress enacted the Global AIDS and Tuberculosis Relief Act of 2000, which committed \$600 million for US global efforts (KFF). President Bush continued this dedication to global health, most notable through the launch of the President's Emergency Plan for AIDS Relief in 2003. This 5-year plan allocated \$15 billion towards HIV/AIDS, TB, and malaria. (KFF) The Obama administration reinforced long running health aid programs and rolled out new ones, like the US Global Health Initiative (KFF).

However, since aid is fungible, and the level of health in a country naturally increases as it develops, has global health aid from the United States impacted recipients in the way it was intended? Is the money going towards sustainable and impactful programs or does it fall through the cracks? How much does the United States need to commit to health aid in order for the aid to make a positive impact on the health of populations in the recipient country? And, how clear is state motivation for giving reflected in aid pathways?

The purpose of this paper is to investigate the aforementioned questions through a robust approach that will utilize quantitative analyses to inform US policy makers about whether the health programs they fund actually impact health in Mexico. As its most southern neighbor, the

United States has a vested interest in maintaining strong aid relationships and supporting health in the nation. This interest is evidenced by simply examining aid flows. According to the database AidData, the United States has provided annual development assistance to Mexico since 1980. Does the legacy of spending on health programs equate to a discernible improvement in population health, however?

Chapter 2 launches the investigation into this question with an examination of the historical context of US foreign aid and aid for health, and includes an analysis of the historical relationship between Mexico and the United States in order to contextualize the strong association that these countries maintain.

Chapter 3 touches on previous work regarding health aid effectiveness, and demonstrates that this topic is widely debated. Researchers report strong evidence that health aid positively, negatively, or even has no effect on health outcomes. That being said, it is important to continue to investigate this topic and apply novel perspectives to the central question of aid effectiveness. As this study focuses on the aid relationship between two actors: the United States and Mexico, it will serve as a unique and specific analysis of health program funding.

Chapter 4 presents the theoretical framework for the hypotheses presented in this paper. Chapters 5 and 6 delve into the methodology of the research and the results of multivariate analyses that inform the discussion of US health aid effectiveness, seen in chapter 7. The paper concludes with policy recommendations, as the results of this research prove that US policy leaders should carefully consider the realities of health program spending before committing scores of funds to programs that have little to no effect on their intended health category.

Chapter 2

Background Information and History

History of Foreign Aid

What is foreign aid and why do states engage in giving? The concept of aid to other nations did not exist until relatively recently. In the late 18th century, countries found themselves wealthy enough to provide aid to other nations. It was usually given in the form of military aid during conflict. For instance, France used aid as a political tool during the American Revolutionary War and supplied arms to the colonists as well as naval support (Dull 2015). France's goal was to prolong the American war with Britain, which would result in the weakening of Britain's military. The United States intervened militarily in "World War II, when it began to provide aid abroad, largely through wartime aid and reconstruction efforts" (Bandyopadhyay, Subhayu & Vermann 2013, 327). Historically, nations alter their foreign aid "behavior according to their own histories and evolving environments" (Bandyopadhyay 2013, 327). For example, France commits scores of aid to its former colonies. In fact, many "former colonial powers tried to facilitate the process" (Bandyopadhyay 2013, 334) of development in the postcolonial period through aid avenues. This altruistic motive for aid remains central in foreign aid flows. However, strategic interests and national security emerged as the driving forces for foreign aid flows during the cold war era and persist today as countries attempt to squash terrorism in vulnerable areas in the 21st century (Bandyopadhyay 2013, 334).

The United States first engaged in foreign aid as we know it in 1947 to halt the spread of communism in Europe post World War II (Lancaster & Van Dusen 2005, 10). The Marshall Plan, while partly driven by cosmopolitanism, was a political tool to push European states to form economic policies that supported the United States' interests, such as expanded trading markets (Lancaster & Van Dusen 2005, 10). In the 1950s and 1960s, the United States employed foreign aid as a poverty alleviation tool to prevent communism in regions of the world that were experiencing rapid economic development. Latin America, Asia, the Middle East received US foreign aid during this time.

The US Agency for International Development was created in 1961 to further international development (Lancaster & Van Dusen 2005, 10). During the 1970s the United States began contributing development assistance to the World Bank. These contributions helped to solidify the United States as a major world power and leader of foreign aid delivery. (Lancaster & Van Dusen 2005, 10). Aid was given to Latin America during the 1980's "to promote political stabilization and development in Central American countries supportive of US policies" (Lancaster & Van Dusen 2005, 11). Lancaster insists that while US foreign aid has been primarily a diplomatic tool, the 1970s saw the US finance projects "intended to meet the basic human needs of the poorest in developing countries".

After the Cold War, the United States delivered aid to post-Soviet bloc countries to assist with democratic regime transition in the 1990s. As globalization increased during this decade, the United States saw the value of addressing transnational issues- such as the spread of disease- through foreign aid (Lancaster & Van Dusen 2005, 12). In recent years, aid has gained prominence as a "means to strengthen fragile states and prevent their collapse in the wake of conflict, thus denying sanctuary for terrorists" (Lancaster & Van Dusen 2005, 12).

US-Mexico History of Relations and Aid

Since the United States began to commit aid disbursements around the world, Mexico has been a continued recipient. The United States and Mexico have had a tense relationship at times. Both nations have exploited the other in some shape or form. The United States imagines Mexico as its younger brother and cares strongly about its stabilization. If Mexico is stable, it can serve as a robust economic partner and the stream of immigrants and illegal substances across the border may be slowed. For this reason, the United States delivers copious amounts of aid to Mexico. On the other hand, Mexico benefits from US involvement in its economic development and investment and seeks to promote a strong relationship with the country to receive economic advantages.

The first official confrontation between the governments of Mexico and the United States was during the Mexican-American War over the border territories in 1846. A less organized and militarily weaker Mexico was destined to lose the war and in 1848, the Treaty of Guadalupe Hidalgo turned over the territory of modern-day California, Arizona, New Mexico, Texas, Utah, and parts of Colorado and Wyoming to the United States. The close of this war impacted more than just land; “The U.S.-Mexican War further distorted the distribution of wealth and power between the United States and Mexico, and the extremely unequal balance that resulted has continued to shape relations between the two countries to this day” (Keller 2016, 4)

However, US and Mexico relations improved greatly after the Mexican-American War. During the French occupation of Mexico, the United States provided moral and military support to Mexico. By the late 18th century, the United States afforded Mexico with capital to invest in its infrastructure and economic development and Mexico offered tax exemptions to US industries (Keller 2016, 6). During this time, economic ties strengthened between the countries.

Relations were damaged during the Mexican Revolution in the early 20th century. The United States intervened militarily for six months to oppose the dictatorship implemented by the Mexican revolutionaries. The disregard for Mexico's sovereignty by President Wilson was a point of contention for the United States after the revolution terminated. The sour relationship between the countries eventually spurred the United States to enter World War I, after the Germans sent a message to Mexico promising to give Mexico territory belonging to the United States if Mexico aligned with the Central Powers. (Keller 2016, 9).

After the World War, relations continued to strain until the Great Depression overwhelmed the United States. President Roosevelt instituted a "good neighbor" policy in hopes that increased trade with Mexico would help lift the US out of the depression (Keller 2016, 10). The policy was essentially a promise that the United States would stay out of Mexican domestic issues. During World War II, the Bracero Program, implemented in 1942, allowed for Mexican laborers to enter the United States and fill the labor gaps left from the US involvement in the war. Mexico also contributed resources to the United States' war effort. "Wartime cooperation with the United States was a significant boon to the Mexican economy and laid the foundation for predominantly friendly relations between the two governments thereafter" (Keller 2016, 12).

In the second half of the 20th century, the Mexican economy blossomed, partly due to United States investment and movement of industries to its soil. American tourism increased during this time, also contributing to the Mexican economy. The countries butted heads on policy decisions during the Cold War era but fundamentally agreed to oppose communism in the region (Keller 2016, 13).

Upon examination of financial aid sector flows using the database AidData, the US has provided annual development assistance to Mexico since 1980. This marks the beginning of

strong economic partnerships between the two countries. During the Mexican debt crisis in 1982, the US government under President Reagan worked to stabilize the Mexican economy (Purcell 1997, 139). When Mexico and the United States signed the North American Free Trade Agreement into existence, the US lauded Mexico for opening up its economy and increasing free trade between the countries (Keller 2016, 14). Present US-Mexico relations have seen the countries cooperate on halting drug trafficking, crime, and illegal immigration. National security interests of the United States have been driven by these issues. The US commits development assistance to various aid sectors in Mexico as an attempt to prevent dangerous aspects of these problems from spilling across the border into the US.

A Brief Profile of Mexican Health Issues

It is of the utmost importance to contextualize the health of Mexico in this paper. To ignore the current state of health would be to employ a simple and narrow minded analysis of United States aid patterns.

Mexico has reached an advanced stage of its epidemiological transition, following a similar trajectory to other developed nations. The leading causes of death transitioned from communicable to noncommunicable diseases around the 1980s. The Institute for Health Metrics and Evaluation found that, in 1990, the leading causes of death were lower respiratory infections, diarrheal diseases, interpersonal violence, neonatal preterm birth, and road injuries. By 2013, the leading causes of death were chronic kidney disease, diabetes, interpersonal violence, ischemic heart disease, lower respiratory infections, and road injuries. The mere changes in cause of death is evidence that Mexico has undergone the epidemiological transition, with diseases related to

obesity and lifestyle emerging as the primary causes of death in the country. A study carried out by the Instituto Nacional de Salud Pública in 2013 found that in the 1990s, Mexico experienced vast improvements in communicable and infectious diseases that “were mainly associated with maternal and child health interventions”. Yet rising adult mortality rates from chronic kidney disease, diabetes, cirrhosis, and, since 2000, interpersonal violence, drove deteriorating health outcomes, particularly in men” (Gómez-Dantés et al., 2016, 2386).

Two causes of death that remained permanent through the years were interpersonal violence and road injuries. This could reflect overall underdevelopment of Mexican infrastructure and struggles with violence associated with drugs. Loss of life due to violence is an immense public health issue in the country. While Mexico has seen great advances in life expectancy at birth, increasing by 4.3 years for males (from 67.6 to 71.9) and 3.4 years for females (from 73.8 to 77.2) between 1990 and 2000, between 2000 and 2010, life expectancy at birth entered into a period of stagnation for males and slowed in progress for females.

Researchers Vladimir Canudas-Romo and José Aburto believe the interruption of the improvements in life expectancy at birth may be related to the increase in violence and homicides that Mexico endured after 2005. They found that violence rates increased dramatically during this period and over half of Mexican adults live with perceived fear of violence (Canudas-Romo, Aburto, García-Guerrero, Beltrán-Sánchez, 2016). Not only are increased homicides contributing to the life expectancy stagnation, but living in constant fear of violence and danger is extremely detrimental to a person’s mental health. For these reasons, the researchers argue that interpersonal violence is a public health issue in Mexico.

It is important to note the health disparities within the country. The southern region of Mexico suffers from a higher under-5 mortality rate. The region has nearly double the under-5

mortality rate than that found in Mexico City. (Stevens 2008, 0900). Indigenous communities also carry a heavier disease burden, which is rooted in centuries-long discrimination against these communities by the Mexican government, resulting in a lack of basic resources and healthcare services.

History has shown that the United States and Mexico maintain a close and careful relationship. For this reason, the United States has engaged in foreign aid across numerous sectors to Mexico. By analyzing the years 1990-2010, this paper will present a picture of a critical time period for both Mexico and the United States. At the beginning of this period, Mexico finished undergoing its epidemiological transition and the United States began to prioritize global health as an aid avenue. This paper contributes to an understanding of the relationship between health aid and population health of the aid recipient.

Chapter 3

Literature Review

Aid to the health sector increased from USD \$10.8 billion in 2001 to \$28.1 billion by 2012 (in 2010 US dollars) (Yamey, et al. 2016), prompting research on health aid effectiveness to become an important topic for policy makers and the public alike. Fittingly, research in this field has bloomed in recent years. Because of the increase in commitment to health aid, data concerning these commitments has become more transparent. Moreover, since the implementation of the Millennium Development Goals, health indicator reporting has become more standard, reliable, and encouraged. Policy makers in both recipient and donor countries have started to regularly report their progress towards these goals, in areas such as HIV/AIDs reduction, improvements in child and maternal health, and control of infectious diseases.

These elements have contributed to an academic climate ripe for research examining the impact of aid to the health sector. Consistently, scholars in this literature field arrive at one of three conclusions. Aid is either effective or ineffective at improving health, or it is effective in the short term but ineffective in the long term. The next logical question after these conclusions are made is, why? Furthermore, what variables affect the relationship between aid to the health sector and outcomes? Researchers have tried to explain their varying findings by discussing the following variables that influence health aid in their studies: the aid allocation process, the bidirectionality and fungibility of aid, other factors that influence health, aid type, short and long term impact, and the time frame in which aid is given.

An important variable to begin this discussion with is the aid allocation process. Who, how, and what are vital questions when considering aid allocation. Gebhard and collaborators (2008) found that when health aid was given to countries that had higher scores of governmental transparency, the aid was more effective at improving health. This seems intuitive as countries with any level of corruption in their governments may not carry out health aid for its intended purpose. A point that Herzer and Nagel explore is that health aid simply does not meet the health needs of the recipient population, and it is vital to ensure that health aid is allocated towards prevalent health issues in the recipient country in order for it to see any impact. Croghan and his coauthors (2006) found that when health aid was accompanied by technical support from donors- such as the presence of USAID or disease surveillance- it was more effective. It is clear that how and to whom aid is given influences its impact on health.

Related to aid allocation is the bidirectionality and fungibility of aid. Several researchers examined the reality of health aid flows and found that there may be a bidirectional relationship between health aid and health outcomes. For example, Williamson found that the health status of a country influences the quantity of health aid it is given (Williamson 2008, 192). Gebhard stated that donors give more health aid to countries in which health is already diminishing (Gebhard 2008, 22). If aid flows are influenced by the health status of a country but health is influenced by the amount of aid a country is given, there is a clear bidirectionality of this aid.

The fungibility of aid is important in the relationship between health aid and health outcomes. Interestingly, arguments exist that support and denounce the fungibility of health aid. Mishra and Newhouse (2009) argue that health aid is less fungible than other types of aid because it is less likely to be used for purposes not related to health. They state that because health aid is more targeted, its funds do not allow for flexibility of their use. Alternatively,

Herzer and Nagel (2015) counter that the fungibility of health aid causes it to be ineffective in the long term, because the recipient countries do not use aid dollars for health-related reasons.

When testing the relationship between health aid and health outcomes, it is very important to account for other factors of development that influence health. Nearly every study in this field tests for the impact of developmental variables on health. Interestingly, the findings are quite chaotic. In their 2016 study, Negeri and Halemariam find that strengthening the rule of law and government effectiveness, and improving sanitation and primary education have a stronger effect on reducing infant mortality rate than health aid (42). They conclude that perhaps countries should focus on domestic factors that improve health rather than relying on foreign development assistance. Williamson found that aid for health did not improve health even after controlling for GDP and quality of institutions. On the other side, Mishra and Newhouse (2009) did not find evidence that health aid is more effective in countries with better policies and institutions. Bendavid and Bhattacharya (2014) found that health aid had a stronger effect on health than economic development.

Akin to the development factors that are important to control for, so are other types of aid. Health aid is only a small sector of aid for development. The findings from the literature are also divided. Mishra and Newhouse (2009) controlled for the effects of education and population aid, infrastructure aid and conflict, peace and security aid. They found that only aid for health had an impact on health indicators (infant mortality rate). Croghan and co-authors arrived at a similar conclusion in their finding that economic development and poverty reduction aid did not matter as much as targeted health interventions in reducing mortality in recipient countries. On the other hand, Wilson (2011) compared three types of aid- development assistance for health, water development, and economic growth- and found economic growth aid to have the best

effect on mortality rates in recipient countries. It is equally important to consider the types of aid within the health sector when looking at aid effectiveness. Even though Wilson (2011) found that economic growth aid had a more significant impact on mortality rates, he highlighted that aid specifically meant for HIV/AIDSs, infectious diseases, in addition to family planning had a small statistically significant effect on mortality (2038).

Moreover, the literature points to the importance of studying the correct representative variables when considering the relationship between health aid and health outcomes. Health indicators common across the literature were infant mortality rate, child mortality rate, and life expectancy. While these variables are crucial measures of global burden of disease and incorporate comprehensive aspects of health systems within countries, studies that focus on specific countries and regions of the world should consider indicators that are more tailored to health issues within these regions or countries. A study by Yogo and Mallye utilized this rationale during their examination of the impact of health aid on health indicators in Sub-Saharan Africa. They used HIV/AIDS prevalence as a key indicator as it is a priority of health systems in the region during their time period of interest, 1990-2010 (Yogo & Mallye, 2015, 1180). The researchers found that health aid is not significantly associated with life expectancy but is effective in reducing child mortality rate and HIV prevalence. Using broad indicators to measure health outcomes may influence the findings of studies about the effectiveness of health aid if they do not accurately measure the health issues at stake.

The literature demonstrates that studying aid from a short run or long run perspective can influence findings. Herzer and Nagel found “in the long run, a one percentage point increase in the health aid/GDP ratio leads, on average, to a decrease in life expectancy” (Herzer 2015, 1433), while in the short run health aid has a significant, positive effect on life expectancy.

Gehbard and authors (2008) determined that health aid helped to reduce the infant mortality and under-5 mortality rates but that the impact did not sustain after five years. Similarly, Benhavid and Bhattacharya (2014) found that the effect of health aid faded gradually, even though it still had a significant impact (885).

Mishra and Newhouse attempted to explain why the relationship between health aid and health outcomes could manifest in short and long run differences. According to the authors, the outcome of the aid may depend on the sector in which it is given (calling back to the importance of considering the aid allocation process and aid type). For example, aid for infectious and diarrheal diseases may see a more immediate impact on health than long term interventions for chronic illnesses or HIV/AIDS (865), and could explain why short run impacts on health are more visible than long run impacts.

Another variable that appeared to influence researcher's findings was the time frame under study. Several studies examined aid flows back to the 1970s up through the 2010s, while others focused on the impact of aid during a much shorter time period. The study of aid dating back to the 1970s is an interesting choice because health aid was not a priority for many states during this decade. While it is important to analyze time series, the global aid context should also be considered when arriving at conclusions about the impact of health aid. Only in the past three decades has the world commitment to health aid grown and transformed into a robust part of foreign aid policy.

An example to highlight how global aid context matters is the study by Bendavid and Battacharya, which found health aid to have a positive impact on health outcomes. The authors noted that aid given from 2001-2010 was more beneficial than aid given during earlier years. Bendavid and Battacharya point to the improvement in health technologies and more effective

targeting of interventions during this decade as an explanation as to why health aid was more effective (881). For example, mosquito nets are an intervention that directly targets malaria and anti-retroviral drug treatments emerged as a heavily targeted delivery for the HIV/AIDS pandemic. Mishra and Newhouse argue that aid given since the end of the Cold War has been more effective because it is not as politically motivated and donors focus on legitimate health issues rather than politics in their aid commitments.

Furthermore, aid given in more recent decades reflects broad global health issues that garnered international attention, such as the AIDS pandemic. For example, “health aid directed for HIV increased by over \$6 billion dollars between 2000-2010” (Bendavid & Battacharya 2014, 885). In addition, as “aid for malaria and maternal and child health increased in the 90s, it may show an impact on health in the 2000s” (Bendavid & Battacharya 2014,885). Studying time frames during which health aid increased drastically will reveal much different outcome on health than decades in which health aid was not a priority.

The literature demonstrates the complexity of the relationship between health aid and health outcomes, noting distinct variables that influence this relationship. Aid allocation, bidirectionality and fungibility of aid, control variables, types of aid, short or long-term effects, and the time frame of interest seem to impact the findings of the literature, leading to a wide range of conclusions. While some studies find health aid to be effective at improving health, others find it ineffective. Even though it may be frustrating that the literature is so varied, it is important to acknowledge the uniqueness of each project and celebrate the insightful conclusions that they offer about health aid and policy. As the research conducted in this paper differs than that of previous studies, it can add another layer to this vast field and measure novel variables and concepts.

This paper will focus on the impact of health aid on health indicators in a specific country and the independent variable will be one country's financial commitments instead of a large number of aid donors. In this case, the focus is on the donor-recipient relationship between the United States and Mexico. The United States is an important donor to study, as it is considered the most generous allocator of foreign aid, by dollar amount. Latin America is a complex region, often overlooked by development studies.

State Motivation: A Unique Lens

A topic that was not addressed by the literature is the question of *why* states give foreign aid and what informs their health program qualities. Emergent in the hypotheses of much of the literature were questions of global and state priorities. These concepts are interesting to investigate in the context of health aid and can uncover how state priorities influence the effectiveness of aid. In this section, I will begin by exploring two theories about foreign aid that can paint a picture of state motivation in engaging in foreign aid for health, and attempt to answer this question. The two theories of interest are cosmopolitanism and statism.

The theory of cosmopolitanism posits that “all human beings, regardless of their political affiliation, are (or can and should be) citizens in a single community” (Kleingeld & Brown 2002). According to this theory, states may give foreign aid because they believe everyone can benefit from the intended effects of the aid, as the world is a cohesive community. The concept behind this theory is not new. It was cemented into international norms through the Universal Declaration of Human Rights and the International Covenant on Economic, Social, and Cultural Rights. Cosmopolitanism is seen daily through aid efforts of humanitarian relief and the ethics

behind the theory are implemented by cosmopolitan international organizations, such as UNICEF.

Regarding foreign aid for health, the cosmopolitan perspective purports that states have the responsibility to “protect and promote health of the other, for the sake of the other” (Lencucha 2013, 2). Foreign aid for health differs than other types of aid in that underlying it is a greater ethical imperative. Health aid pertains to “individual well-being and is widely accepted as a basic human right” (Lencucha 2013, 2). Foreign aid based on national security or economic interests does not maintain this moral and ethical - cosmopolitan - basis that should underlie foreign aid for health.

Further, Lencucha argues that cosmopolitanism is the right perspective for health aid. While other motives behind foreign aid for health, such as charity or national security, can do well to promote global health, cosmopolitanism’s “emphasis on persons rather than nations extends the ethical scope of foreign policy to include all individuals” (Lencucha 2013, 7). Additionally, cosmopolitanism upholds human rights declarations and norms accepted by the international community. By placing the individual as the unit of concern it also places human rights and human commitment to morals and ethics as the primary units of concern. The logic of cosmopolitanism that applies so well to health aid is that individuals are separate entities from the states in which they live, and they are entitled to health as a human right.

Another argument for cosmopolitanism is that it “engenders the good of long-term systemic commitment towards global health goals” and can act as a “vision for transnational cooperation and institution building” (Lencucha 2013, 8). States that initiate foreign aid policy with national security or self-interests in mind may not fully commit to international health aid cooperation because they are held back by their own interests. This framework does not lend

itself to the sacrificial and transnational elements of cosmopolitanism espoused by Lencucha and other scholars in support of the theory.

Statism exists as a contrasting paradigm to cosmopolitanism. The theory is framed as “the expansion of the state’s responsibilities.” Moreover, “behind this expansion stands a shift in the idea, scope and power of the government” (Neumann 1950, 15). Statism is very popular with governments and legitimizes them as strong and central powers. (Barry 1999, 15). According to the theory, the state is also the most important actor in the international sphere.

Foreign aid for health has been viewed through a statist lens. Sarah Davies writes about statist versus globalists in regard to global health players. Statists emphasize the state while globalists emphasize individuals and human rights. (Davies 2010). Davies suggests a clash between these two actors when considering which of them is responsible for providing the right to health to individuals. Statists would say that it is the role of the state to provide for its citizens but globalists would argue that states do not maintain the same ethics and morals as other global health actors, such as the World Health Organization, and cannot be trusted to adhere to human rights of the individual in this situation.

Taking a step back, the influence of the state is vital to the impact of foreign aid for several reasons. On the recipient side, the state is incredibly important to the process of aid allocation. Although the cosmopolitanism theoretical approach to foreign aid focuses on human rights and global citizenship, in reality, the state constructs a wall that cosmopolitanism in practice may not be able to surmount with respect to foreign aid.

In order to effectively deliver aid within a state, some would argue that the state, as a political entity, is a critical component to the process. There are several reasons for this. The first reason is to respect the state’s sovereignty. A recipient government may take offense or feel

threatened if a cosmopolitanism driven donor country attempts to deliver aid to individuals within their country without consulting the state. Violating a state's sovereignty in the name of foreign aid could lead to messy political situations and ineffective aid delivery. A second reason for the state to be involved is that the state government should be consulted about aid delivery. The state knows its territory and citizens best. It can help facilitate (or not) the delivery of the aid so it reaches its intended purpose. In a similar vein, Miller and Freeman situate statism as another critique of cosmopolitanism in the argument that the state is the only system that can determine the opportunities and well-being of its citizens, so more emphasis should be placed on the state in aid flows ((Lencucha 2013, 6).

On the donor side, statist actors engaging in foreign aid may do so only to promote their own national interests or to protect the security and health of their own citizens. Price-Smith argues that public health is extremely politicized and states view global health issues as national security issues. The prevention of global pandemics is in the best interest of state security and the health of its citizens. One could argue that this statist view of health incorporates human rights, but only on the level of a state's own citizens. The state may appear to prioritize the health of individuals around the world, but for its own interests. In this instance, the contrast between cosmopolitanism and statism is visible. The former emphasizes global citizenship and the rights of individuals, and the latter asserts the interest of the state and the importance of sovereignty.

Cosmopolitanism and statism can play a role in identifying the motivation of state engagement in foreign aid and inform us about the reasoning behind health program funding. Theoretically, if cosmopolitanism is the motivation for aid giving, health programs should be funded regularly and their qualities should reflect interventions to impact the most pressing health issues that the recipient population faces. In a similar vein, the cosmopolitanism

motivation for giving could also reflect global health priorities agreed upon by international institutions such as the World Health Organization. If statism is the motivation behind aid giving, donor health programs will be funded when it is convenient (which may lead to sporadic financing of health programs) and beneficial for advancing state interests, such as protecting the donor country from disease outbreaks that could quickly travel across borders.

The relationship between the US and Mexico will lend a perfect example to study health aid within the context of these theories. Are health aid commitments of the United States to Mexico a reflection of a cosmopolitan action- for the greater good of the global community? Or does the United States commit health aid in order to maximize personal interests and stem conflict, disease spread, and unrest that could potentially spill over the borders of their most southern neighbor? The examination of the aid flows and health program characteristics can reveal the motivation behind the United States' engagement in health aid to Mexico

However, while these theories can be applied when scrutinizing aid flows and health program characteristics, they do little to inform us of whether the giving behavior of donor countries has an impact on health outcomes in recipient countries. The limitations of these theories in practical analysis begin at their very definitions. While the definition of statism is that state motivation reflects state interests, these interests may also be targeted by international organizations, such as the World Health Organization and through the UN Millennium Development Goals, which set health priorities for the entire international development community. In this way, what can originally appear to be a statist aid commitment may become cosmopolitanism in nature.

This is why, even though the US engagement in health aid to Mexico may be explained by these theories, the actual impact of the health aid needs to be evaluated in a more testable,

concrete fashion. State motivation for aid behavior is empirically untestable, even if it may be fascinating to ponder. That being said, the research presented in this paper will attempt to analyze different aspects of US health aid programs and answer important questions about the impact that these programs actually make on health.

Chapter 4

Theory

The literature in this field reveals a variety of factors that influence the impact of health aid on health outcomes in the recipient country. Two factors that will be expanded upon in this paper are the aid allocation process and type of health aid. This project will also differ from previous literature by focusing explicitly on the relationship between the aid commitments and program qualities of one country, the United States, on the health outcomes of another country, Mexico. By analyzing the flow of health aid from such close detail, this paper will also explore how the giving motive of the United States is revealed and test several hypotheses about characteristics of health aid and their impact on health in Mexico.

It could be expected that the characteristics of health aid play a role in the health outcomes seen in Mexico from 1997-2015. As the literature shows, it is important to consider these characteristics and the process of aid giving. Particularly, the type of aid and the timeline in which it is given-essentially, how it is allocated. Three avenues of health aid programs will be examined in the analysis, as these were the most commonly funded by the United States from 1997-2013: HIV/AIDS, infectious disease/tuberculosis (TB), and maternal/child health. The aid programs maintain varying degrees of monetary and yearly commitments. The hypotheses tested in this paper attempt to pinpoint the following characteristics of health programs: frequency and length, monetary amount, type of health program, and global context.

While not explicitly discussed in the literature, it is hypothesized that programs that receive regular and sustained funding will show a greater impact on health outcomes than those that do not. This hypothesis addresses the short term/long term argument from the literature

about whether or not regular and sustained programs carry more of an impact on health rather than one-off funded programs.

H1: Regular and sustained health program funding has a stronger impact on health outcomes than infrequent and inconsistent program funding commitments in 1997-2013.

Another theory that will be tested is that programs receiving the most funding in US dollars show more of an impact on health. This is a telling characteristic of health aid because it reflects state priorities and global context. Additionally, an interesting facet of this theory is that programs receiving the most funding may not reflect the most pressing health issues in the recipient country, as discussed by Yogo and Mallaye, thus further expressing the role of state interest in health aid.

H2: Programs that receive the most funding from USD between 1997-2013 will have a greater impact on health outcomes in Mexico than lesser funded programs

It is crucial to address the type of health program when looking at the effects of health aid on health outcomes. The United States heavily targets HIV/AIDS and tuberculosis but is it worth it? Do these targeted programs have the intended effect on the mortality and prevalence rates of these diseases? The US chose their health priorities to address within Mexico, tailoring their aid flows to focus on these specific diseases. Furthermore, these disease choices reflect global health agendas set by the United Nations in the Millennium Development Goals.

H3: The US funding of HIV/AIDS health programs from 1997-2013 has had a positive impact on the decline of HIV/AIDS prevalence, incidence and mortality rate in Mexico.

H4: The US funding of tuberculosis health programs from 1997-2013 has had a positive impact on the decline in tuberculosis prevalence, incidence and mortality rate in Mexico.

One of the most important aspects of evaluating health aid programs is weighing their impact against control variables.

These hypotheses will allow the analysis to pinpoint the measurable qualities of the giving behavior of United States- characteristics of health programs and targets, as well as health aid funding flows and commitment levels. Furthermore, the study design will enable the paper to build upon the current research on this subject in the field, and contribute to the discussion about which aspects of health aid impact health outcomes.

Chapter 5

Methodology

Data were gathered from 1997-2013 for the independent variables and from 1997-2015 for the dependent variables. A two-year lag was incorporated into the analyses to account for the time that could elapse for a health program to demonstrate an impact on health. This study examines the relationship between health aid and health outcomes over time, therefore the unit of analysis is years (N=19). The time frame was chosen for several reasons. Originally, the years 1990-2010 were selected but the health aid and health outcome data were incomplete in the years leading up to 1997, leading to an adjustment of the time frame for the analysis. This period reflects important political and economic changes in aid policy of the United States and serves as a justification for the independent variables, which are operationalized as monetary commitments to health programs by the United States.

Independent Variables

The US government defines health aid as “expansion of basic health services, including family planning; strengthening national health systems, and addressing global issues and special concerns such as HIV/AIDS and other infectious diseases” (ForeignAssistance.gov). The three programs that were the most frequently financed by the United States in Mexico were HIV/AIDS programs, infectious disease programs (which included tuberculosis programs), and maternal and child health programs.

The data for the independent variables were retrieved from a database called AidData, which is an independent research lab supported by USAID and private foundations that records the financial aid commitments of nearly every country. AidData codes aid activity and provides detailed information about for which sectors the aid is intended. The data are coded based on the OECD Creditor Reporting System codebook. Other researchers, such as Wilson (2011), utilized this database in their analyses of development assistance. Furthermore, AidData closely measures my conceptual operationalization of US aid commitments.

The independent variables have 17 observations for each year in the time frame (1997-2013). US aid commitments to each health program were summed to reflect yearly commitments for each health program. The independent variables have high variability, as there were several years in which the United States did not fund programs at all, and other years where the funding levels reached well above one million US dollars. A significant gap in health aid commitments was observed between the years 2006-2009, which may be explained by the Great Recession that the United States underwent. Health commitments before these years was usually regular and sustained, and commitments after these years revived, but at much lower levels, especially infectious disease program funding.

Dependent Variables

Dependent variables for this study were based upon those used in the relevant literature and considering the health context of US aid programs. Life expectancy (LE), infant mortality rate (IMR), child mortality rate (CMR), and maternal mortality ratio (MMR) function together to paint a picture of the overall health of a population. The indicators reflect development

standards and indicate the quality of health services in a country and appear frequently in the literature. Wilson (2011), Williamson (2008), Bendavid & Battacharya (2014), Herzer & Nagel (2015), Negeri & Halemariam (2016), Gebhard et al (2008), Mishra & Newhouse (2009), and Yogo & Mallaye (2015) all utilize one or more of these health indicators in their analyses.

Moreover, these health outcome variables are similarly defined across any context, and they measure the intended outcome of the research, population health. Another reason to incorporate these health variables into the analysis is that the United States sporadically funded programs directed at maternal and child health. The mortality, prevalence, and incidence rates of HIV/AIDS and TB will also be examined, as these were diseases most targeted by US health programs.

Two different sources were used in regard to the dependent variables. The LE, IMR, CMR, and MMR are from a database within the Pan-American Health Organization (PAHO, 2015). LE is defined as “the average number of years that a newborn could expect to live, if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her birth, for a specific year” (PAHO, 2015). IMR is “the quotient between the number of deaths in children under 1 year of age in a given year and the number of live births in that year, expressed as per 1,000 live births” (PAHO, 2015). CMR is the “number of reported child deaths under 5 year of age, divided by the number of live births in that year, expressed as per 1000 live births” (PAHO, 2015). MMR is defined as “the quotient between the number of maternal deaths in a given year and the number of live births in that same year, expressed by 100,000 live births” (PAHO, 2015).

The indicators for the HIV/AIDS and TB variables were retrieved from the Global Health Data (GDHx) database. The HIV/AIDS and TB mortality rates are the number of deaths that can

be attributed to each disease for all ages and both sexes, as expressed per 100,000 (IMHE). The prevalence rate is “the total number of cases of a given disease in a specified population at a designated time” for all ages and both sexes, as expressed per 100,000 (IMHE). The incidence rate is “the number of new cases in a population at a given time” for all ages and both sexes, as expressed per 100,000 (IMHE).

GDHx is run through the Institute for Health Metrics and Evaluation, a research institute at the University of Washington founded by the Bill & Melinda Gates Foundation. It is essentially identical to health metrics research gathered by the World Health Organization, but it is independent of any UN member state. The database was created by compiling health outcome data from researchers, governmental organizations, and social science archives. The variables from GDHx are expressed as a rate per 100,000.

The dependent variables have 19 observations for each year in the time frame (1997-2015). Most of the health indicators show a general downward trend in mortality, prevalence, and incidence rates, which can be reflective of health improving in general as Mexico has developed. However, upon closer examination, several of the indicators have a fluctuating trend that may be explained by varying US health aid commitments. For example, maternal mortality ratio begins to increase after a steady decline around the years 2008 and 2009. This increase follows the years when US program funding dropped off dramatically during the Great Recession.

Analytic Plan

First, a direct analysis into the relationship between aid and health was conducted. To assess descriptive statistics and basic associations between variables, crosstabulations were performed for each dependent and independent variable. The crosstabulations provided number of observations, minimum, maximum, mean and standard deviation and chi square (Table 1).

Bivariate correlations were performed without the two-year lag using the statistical software SPSS Version 25. Each of the dependent variables were correlated separately with independent variables, in order to isolate any relationship that may have been discovered. Because of the variation in health program funding over the years, the correlations were performed according to three scenarios: including all years, including just the years before the Great Recession (1997-2006), and including just the years during and after the Great Recession (2007-2013).

Multiple linear regression models were performed across all years for each dependent variable, and then selecting the years before and after the Great Recession to determine if the results changed based on time period. In each regression, the three independent variables were tested with one dependent variable. Therefore, a total of 10 regressions were performed for each set of years.

Chapter 6

Results

Descriptive Statistics

As shown in Table 1, the independent variables have frequencies of 17 while the dependent variables have frequencies of 19. This reflects the two-year lag mentioned in the methodology section. Of note, the minimum amount of aid committed by the US in a given year was \$0 USD in each program. The maximum amount committed was over \$10 billion USD, in the infectious disease/TB programs category. The variation of commitments across years can be seen in Figure 1. The dependent variable of HIV/AIDS prevalence rate demonstrated the most difference in its maximum and minimum value, 170.8 per 100k (maximum) and 87.1 per 100k (minimum)

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
HIV/AIDs Programs	17	0	2971384	971064.82	1060895.68
Infectious Disease/TB Programs	17	0	10230588	1757768.96	2786724.65
Maternal/Child Health programs (family planning, reproductive health)	17	0	4133080	393870.97	1030803.98
Life Expectancy	19	73.5	76.9	75.405	1.0146
Maternal Mortality Ratio	19	34.6	82.0	58.700	14.7570
Infant Mortality Rate	19	12.5	24.0	16.574	3.2743
Child Mortality Rate	19	14.8	87.5	33.908	26.4464
HIV/AIDS Prevalence Rate	19	87.1	170.8	114.484	27.2312
TB Prevalence Rate	19	24.04	25.88	24.7384	.42315
HIV/AIDS Incidence Rate	19	8.0	15.0	11.332	2.3224
TB Incidence Rate	19	14.2	19.4	15.516	1.4127
HIV/AIDS Mortality Rate	19	4.60	5.40	5.0263	.21040
TB Mortality Rate	19	2.00	5.00	2.9316	.89942

Figure 1 shows the monetary commitments of the United States to the three health programs of interest for this analysis. Upon viewing the data trend, it is apparent that these variables maintain a large degree of variation across the time frame, 1997-2013. Several years show a complete drop off in funding, whereas other years show a steady increase or decrease in funding. An important feature of Figure 1 is that the “Great Recession” is mentioned prominently. Funding waned greatly during 2007 and 2008 and it is important to remember that the recession was occurring during this time in the United States, which affected foreign aid spending in general.

HIV/AIDS program funding, in green, is the funding stream with the most consistent commitments in terms of time and quantity. There is a slight increase and steady funding level from 1998-2003. After a gap that lasts until 2010, the HIV/AIDS funding resumes with similar levels to the years before the recession. Infectious disease/TB program funding, in blue, saw a dramatic spike at the turn of the century, with aid flows greatly surpassing those of the other health programs. This period lasted from 1999-2004, with funding levels dropping in the years before and during the recession. Infectious disease/TB program funding reemerges after the recession, but with considerably less fervor than the years before the recession. Maternal/child health program funding, in yellow, is the aid flow with the most varied commitment, in both occasion and quantity. Figure 1 shows only 5 years during which these programs were funded and the highest quantity of funding occurred in 1998.

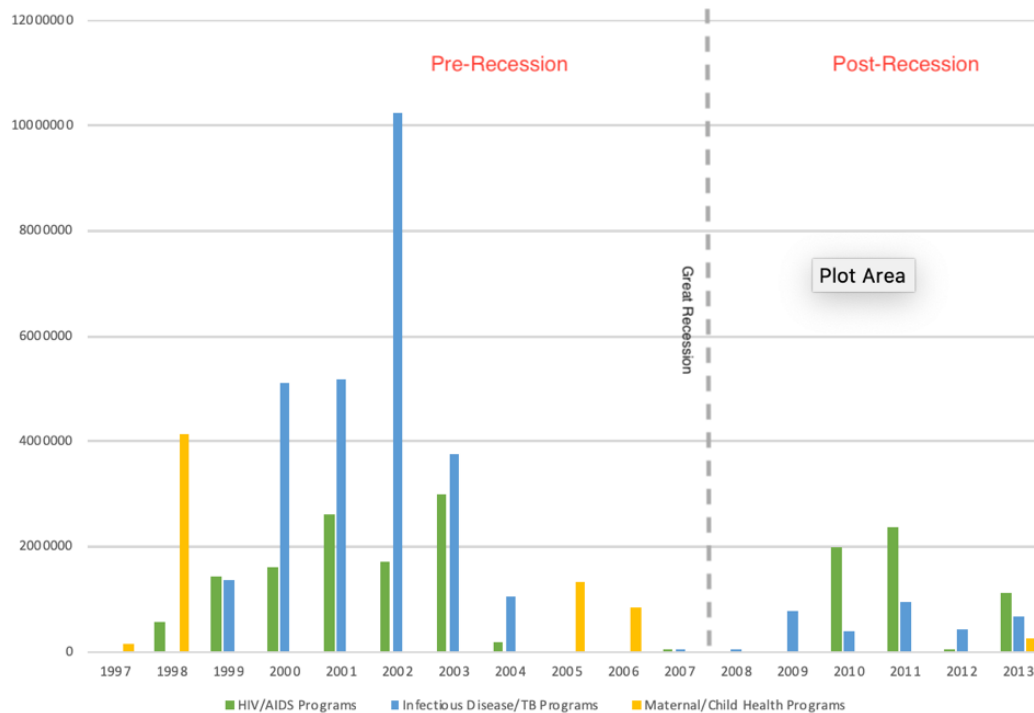


Figure 1. All Program Commitments Combined by Year (1997-2013)

Figure 2 shows the trends in the health outcome variables of life expectancy (LE), maternal mortality ratio (MMR), infant mortality rate (IMR), and child mortality rate (CMR) from 1997-2015. As would be expected, LE shows a slight but steady increase over the time period. Similarly, IMR demonstrates a steady decrease across the time period. MMR and CMR show notable fluctuations, but a general decrease from 1997-2015. A slight increase in CMR in 2002 is followed by a dramatic decrease in the rate during 2003. MMR shows a spike from 2007-2009, which is followed by a sharp decline until 2011.

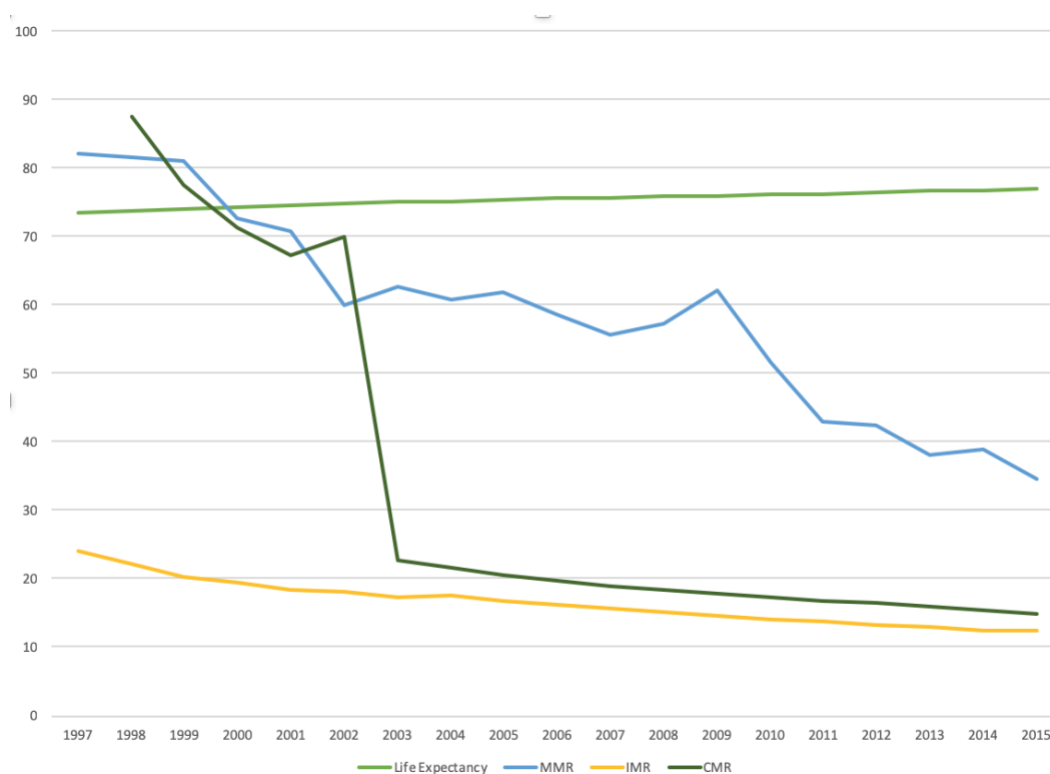


Figure 2. LE, MMR, IMR, CMR (1997-2015)

Figure 3 shows the trends in health outcome variables of the incidence, prevalence and mortality rates of HIV/AIDS and TB from 1997-2015. TB prevalence, incidence, and mortality show steady but small declining rates over the time period. HIV/AIDS rates tell a different story. The HIV/AIDS incidence rate shows a steady increase. Further, the prevalence rate shows an even more dramatic increase. Interestingly, the HIV/AIDS mortality rate decreased steadily over the time period, mirroring the TB mortality rate.

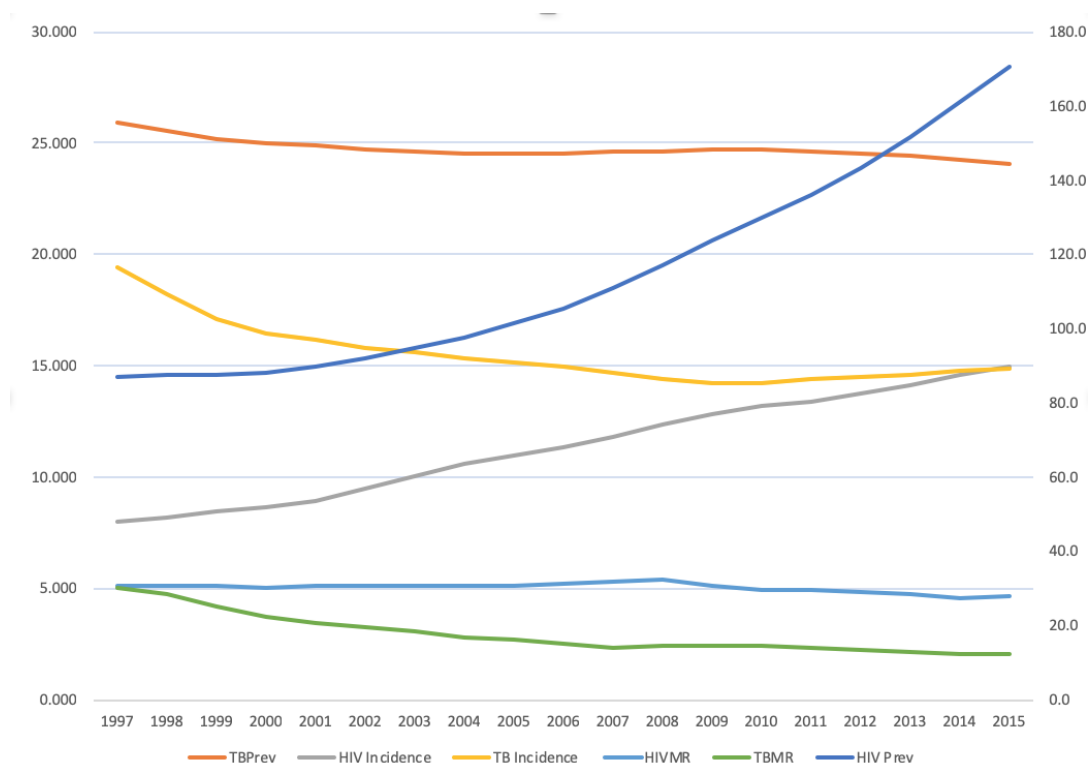


Figure 3. HIV/AIDS, TB Incidence, Prevalence, and Mortality (1997-2015)

Bivariate Correlations

The only statistical significance observed was a slight positive correlation between CMR and infectious disease programs when all years were correlated, and negative correlations between TB prevalence and mortality rate and maternal/child health program when the years post-recession (2007-2015) were selected for the test.

Table 2. Bivariate Correlations across all years (1997-2015)

	LE	MMR	IMR	CMR	HIV/AIDS Prevalence	TB Prevalence	HIV/AIDS Inc	TB Inc	HIV/AIDS MR	TB MR
HIV/AIDS Programs	-.068	-.023	-.024	.304	-.103	-.055	-.157	-.012	-.340	.075
Infectious Disease/TB Programs	-.270	.136	.177	.529*	-.389	-.037	-.398	.101	-.026	.179
Maternal/Child Health Programs	-.361	.363	.393	.397	-.259	.375	-.303	.412	.065	.409

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ (chi square test)

Table 3. Bivariate Correlations from 2007-2015

	LE	MMR	IMR	CMR	HIV/AIDS Prev	TB Prev	HIV/AI DS Inc	TB Inc	HIV/AI DS MR	TB MR
HIV/AIDS Programs	.463	-.485	-.481	-.461	.402	.096	.465	-.279	-.558	-.140
Infectious Disease/TB Programs	.608	-.387	-.654	-.667	.609	-.062	.663	-.372	-.596	-.383
Maternal/Child Health Programs	.642	-.581	-.548	-.587	.653	-.881**	.584	.400	-.539	-.778*

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ (chi square test)

Linear Regressions

In the linear regressions that were performed, statistical significance similar to the bivariate correlations was observed. As seen below in Table 3, CMR showed significance with infectious disease programs and maternal/child health programs when all years were tested. The CMR lost significance when testing with the years before the recession (1997-2006) and the years during and after the recession (2007-2015). Mirroring the bivariate correlation, the regression in the years after the recession demonstrated a significant relationship between TB prevalence rate and maternal/child health programs, which is shown in Table 4 below. No other significant relationships were observed in the linear regressions.

Table 4. Linear Regression CMR (all years 1997-2015)

	Standardized Beta	Significance	Adjusted R Square
HIV/AIDS Programs	.099	.663	

Infectious Disease/TB Programs	.631	.015	.498
Maternal/Child Health Programs	.590	.009	

Bold= $p \leq .05$

Table 5. Linear Regression TB Prevalence Rate 2007-2015

	Standardized Beta	Significance	Adjusted R Square
HIV/AIDS Programs	.185	.571	.651
Infectious Disease/TB Programs	.063	.846	
Maternal/Child Health Programs	-.922	.034	

Bold= $p \leq .05$

Chapter 7

Discussion

The main findings of this paper were that health programs funded by the United States from 1997-2013 had little or no relationship with health outcomes in Mexico from 1997-2015. Furthermore, relationships were not found as hypothesized between health program and outcome variables. Below, the findings will be discussed in depth as they relate to the hypotheses presented by this paper. Additionally, interpretations about the theoretical implications of external aid policy of the United States will be explored.

The first two hypotheses in this project can be considered broader and more generalizable, as they concern the overall funding and temporal commitments of health programs. H1 specifically targets the temporal aspect of the aid programs.

H1: Regular and sustained health program funding has a stronger impact on health outcomes than infrequent and inconsistent program funding commitments in 1997-2013.

This question poses several important points. First, that programs funded most frequently should demonstrate an impact on health rather than programs that are funded infrequently. Second, programs with regular funding (a similar commitment in US dollars over the years) should impact health more than programs with inconsistent funding levels. From a descriptive standpoint (which can be seen in Figure 1 in the Results section), it is evident that Maternal/Child health programs were the most infrequently and inconsistently funded. Infectious Diseases/TB programs had fairly frequent funding, but the funding levels varied greatly year to year. HIV/AIDS programs appear to be the most frequently and consistently funded.

Interestingly, the results of the correlations and regressions found in this paper do not support this hypothesis. Correlations showed that maternal/child health program funding had negative correlations with TB prevalence rate and mortality rate in the years after the recession. This program did not receive any funding except in 2013. As shown in the regression model, the association between maternal/child health programs and TB prevalence was statistically significant only during this time period. The fact that both tests showed a relationship between maternal/child health and TB prevalence rate is notable. Additionally, maternal/child health programs showed statistical significance with CMR when all years were incorporated into the regression model. Infectious disease/TB program funding also was significantly correlated with positive increase in CMR, and showed identical significance to CMR in the regression model when all years were selected.

Contrary to the hypothesis, the program with the least frequency and most inconsistent funding, maternal/child health, witnessed the greatest impact on health from the models tested. A similar observation was noted with another program with inconsistent funding, infectious disease/TB.

H2 considers funding commitments in the following intuitive manner:

H2: Programs that receive the most funding from USD between 1997-2013 will have a greater impact on health outcomes in Mexico than lesser funded programs

It is clear from the figure above that the most funded programs were HIV/AIDS and Infectious disease/TB. US global health priorities obviously fell within these disease categories from 1997-2013. However, for as much money that the country spent on these health programs,

they were not the program that had the most impact on health. Instead, maternal/child health programs showed the most strength in the statistical models. Only in one regression did infectious disease/TB programs show a significant impact on a health outcome.

H3 and H4 address more specific disease categories that appeared to receive the most funding over the time period of interest and reflect US global health priorities. The fact that these programs garnered the most funding leads the researcher to anticipate that health outcomes related to the targeted diseases may be impacted by the funded programs.

H3: The US funding of HIV/AIDs health programs from 1997-2013 has had a positive impact on the decline of HIV/AIDs prevalence, incidence and mortality rate in Mexico.

The results of the correlations and regressions in this study showed no significant relationship between HIV/AIDs programs and the prevalence, incidence, or mortality rates of this disease. This could be explained by numerous other key factors that this study was not equipped to address. However, from the standpoint of funding levels, perhaps this result shows that the US is not spending enough to make an impact on HIV/AIDS in Mexico, or the funds are not properly allocated in the recipient country.

H4: The US funding of tuberculosis health programs from 1997-2013 has had a positive impact on the decline in tuberculosis prevalence, incidence and mortality rate in Mexico.

Similarly, the results of the correlations and regressions in this study showed no significant relationship between Infectious disease/TB programs and the health outcomes related to this disease. In an alarming finding, CMR demonstrated a positive correlation and regression with these programs. These results suggest that programs funded with the most frequency and monetary amounts may not produce the intended results and may not even manifest changes in health outcomes related to the disease category.

Reflecting on the hypotheses and results of this paper show how this work has contributed to the wide field of literature on health aid effectiveness. Primary, this paper provides a novel scale of analysis. While many researchers adopt an aggregate and macro scale to investigate health aid effectiveness, this paper shows that narrowing the focus on two countries and their aid relationship is a relevant paradigm to explore. Secondly, this paper followed the example of the study by Yogo and Mallye (2015) and utilized health outcome variables that reflected relevant health program priorities rather than solely measuring health aid and outcomes broadly. In addition, the results of this research support a point made by Herzer and Nagel (2015), that health aid funding may not meet the health needs of the recipient population because the aid is not allocated towards prevalent health issues in the recipient country. Apart from Yogo and Mallye, no other study that was reviewed in the literature search utilized health outcome variables specific to health programs to evaluate health aid. While that may render this study less generalizable, it could serve as important feedback for United States policymakers.

Thirdly, the results of this research support a finding by Wilson (2011). Wilson determined that the type of health aid mattered when evaluating its effectiveness. He found that aid specifically meant for HIV/AIDs, infectious diseases, in addition to family planning had a small statistically significant effect on mortality (2038). This paper also found that certain categories of health aid demonstrated statistical relationships with mortality, specifically infectious disease programs and child mortality rate.

Fourthly, this paper contributes to an understanding of the manner in which domestic factors can impact health aid commitments. The research was able to demonstrate how the Great Recession in 2007-2008 affected US health aid commitments to Mexico. As the commitments completely vanished during these years, it could have had an impact on the relationship between

health programs and health outcomes. Moreover, this shows the volatility of foreign aid in general and how seemingly unrelated factors- stressors on the US economy and health in Mexico- are uniquely tied together.

Lastly, the results of this paper contribute to the discussion about health aid funding. Numerous researchers in the literature review, such as Bendavid and Battacharya (2014), Herzer and Nagel (2015), and Mishra and Newhouse (2009) were able to generalize their results to suggest that an increase in health aid funding leads to positive or negative impacts on health. This paper indicates that increases and decreases in US health aid funding may not demonstrate the intended relationships with health outcomes in Mexico.

A fascinating aspect of this type of research is the ability to scrutinize aid flows on a level that reveals state interests and priorities. The very disease categories that the United States chose to fund tells an interesting story about global health aid. Recalling the theories of cosmopolitanism and statism, one can easily see why the US participated in the worldwide health priorities of the time. From 2000 to 2015, global health actors focused on three priorities: HIV/AIDS, infectious diseases, and maternal and child health. As the UN's Millennium Development Goals outlined these priorities, it is not a surprise that these categories are what the United States focused their health spending on in Mexico. From a theoretical perspective, this is a clearly cosmopolitan behavior- the US participated in a global initiative to increase the health of the developing world.

However, if cosmopolitanism directs us to consider the relevant health issues to Mexico as a way to help the greater good, these disease categories were clearly off target. As mentioned in the historical background section of this paper, the heaviest health burdens in Mexico during this time period were chronic diseases related to obesity, mortality rates caused by interpersonal

violence, and deaths related to poor infrastructure. How can this health aid considered to be for the “greater good” be thought of as such if the aid does not target the relevant health issues to the average person in Mexico?

In this manner, perhaps greater global health priorities are statist in their nature. Actors from different states, primarily Western and developed, gather to determine the goals of the UN and health organizations. It would not be far-fetched to consider that these priorities reflect actors’ interest to protect themselves and their citizens from disease.

US health aid to Mexico can certainly be interpreted as statist, as well. While the aid reflects broad global health priorities, it also is relevant to US national security interests. Targeting infectious diseases and global epidemics such as HIV/AIDS is of utmost importance to US policymakers. Diseases do not respect national borders and it is of US interest to help control them in their neighboring countries. Moreover, with the high degree of immigration that occurs from Mexico and the US, there may be catastrophic consequences in the US if immigrants carry infectious diseases across the border.

Limitations

The limitations of this study are important to note and future work on this subject should take them into account. First, this paper did not include a large number of observations, which precludes an ability to generalize its conclusions and determine the actual impact of health aid on Mexican health. Secondly, this paper did not account for other explanatory variables for health such as general development indicators, per capita GDP, other types of aid, and aid from other countries. These variables should be incorporated in further research on this topic, as they will

give future researchers the ability to isolate the impact of US health aid on health in Mexico.

Thirdly, the research design employed by this paper was quite simple, as it only discussed slight associations (correlations and regressions) between program funding and health outcomes. It also did not include a time series analysis. A more complex design that includes time series may lend to future research the ability to more confidently assess the impact of US health programs and health in Mexico.

Chapter 8

Conclusion

Health is a human right. This claim has been cemented into international norms by bodies such as the World Health Organization and the UN Millennium Development Goals. As the world globalizes, it becomes smaller. Diseases do not respect borders and the world population will face new threats to health induced by circumstances such as mass migration and climate change. Therefore, while health is a human right, it is also in the best interest of the nations to cooperate in transnational efforts to support good health and wellbeing.

Supporting health is an easy rallying cry for policymakers. At its core, health is a nonpartisan issue. The United States has seen its last three Presidents commit millions of US dollars to global and domestic health issues. It is clear that health aid has been considered a worthy channel in which to allocate funds. As economist Jeffery Sachs writes, since the year 2000, “the greatest breakthroughs in aid quantity and quality came from the field of public health” (Sachs 2014). But as research has shown, the actual impact of health aid on health in recipient countries is nuanced. The literature argues over whether aid is effective and what factors impact the ability of health aid to cause measurable improvements in health.

This thesis aimed to contribute to the literature by presenting hypotheses about the quantity and frequency of US aid commitments to Mexico. It also posited that commitments to certain disease categories, HIV/AIDS and TB, would show an association with positive health outcomes in these diseases. The findings of this research were that the programs funded with the most frequency and quantity (HIV/AIDS and infectious disease/TB) did not demonstrate a statistical relationship with improved health outcomes. In fact, contrary to the hypotheses, the

program funded with the least frequency and quantity, maternal/child health, showed a relationship with health outcomes in the statistical models. Furthermore, while the most funding was allocated towards the priorities of HIV/AIDS and TB, a statistical relationship was not detected between the aid commitments and outcomes related to these diseases.

What does this mean for US policymakers? Even if the portion of the foreign aid budget allocated towards Mexican health is minute, it is worth it to critically evaluate the impact of this aid? This paper recommends that US policymakers take a closer look at this particular channel of foreign aid. While the three funded programs clearly reflect US and international health priorities between 1997-2013, this thesis found that the funding commitments did not have the intended relationship with the targeted health outcomes. The United States may want to more carefully consider the manner in which they target aid to ensure that it is properly impacting health in the intended fashion. Furthermore, it is important to note that the leading mortality causing diseases and conditions in Mexico during 1997-2013 were not reflected in the health programs targeted by the United States. Perhaps if health programs targeted the most relevant health issues within Mexico, such as the treatment and prevention of chronic diseases related to obesity, a stronger impact on health would be observed.

The research may advise policy makers to consider critically evaluating the impact of their health program funding. Furthermore, the findings point to the fact that while aid intentions may carry the best intentions, their actual impact may fail to meet the health needs of a population.

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ACADEMIC VITA
Greta Noll

Education

The Pennsylvania State University, Schreyer Honors College **May 2019**
Majors in International Relations, Spanish, Minor in Global Health University Park, PA
Honors Thesis topic: Impact of US health aid on health outcomes in Mexico
Study Abroad: Universidad Iberoamericana Puebla, Mexico (Summer 2017)

Professional Experience

Clearinghouse for Military Family Readiness **February 2016 – Present**
Research Assistant University Park, PA

- Identified greatest community health needs of military families and caregivers on Air Force bases around the world, through analysis of RAND study data
- Researched best evidence-based practices for suicide prevention and communicated recommendations for potential utilization in Zero Suicide, a revitalized Air Force suicide prevention program
- Independently managed the entire Continuing Education certificate process contracted by Air Force clients
- Presented the model for Zero Suicide to a university audience at Research Penn State
- Calculated effect size measures for a meta-analysis of the best practices for obesity prevention in children

Child Maltreatment Solutions Network: Safe and Healthy Communities Initiative **January 2018 – present**

Spanish Translator/Project Intern University Park, PA

- Translated English questionnaires and sexual health education materials into Spanish
- Developed implementation strategies of community health program for underserved communities

Cincinnati Children's Hospital Division of Behavioral Medicine and Clinical Psychology
June 2012 – 2014

Research Volunteer Cincinnati, OH

- Assisted an NIH-funded research study looking at the impact of sexual abuse on adolescent health
- Duties included: Transcribing trauma interviews of abused children and preparing protocol materials

Leadership Experience

United Nations Campus Advocates **2016 – present**

Multiple Executive Board Positions (President, VP Membership, PR Chair)

- Lead weekly meeting for over 30 students to discuss ways to advocate the work of the UN
- Fundraised over \$600 for Shot @ Life, a UN campaign to provide vaccines to underdeveloped countries

- Represented Penn State chapter at a national conference and lobbied on Capitol Hill to urge policy makers to support a strong relationship between the US and the United Nations
- Organized advocacy events such as a benefit concert, a food drive, and an in-district congressional meeting
- Drafted and published press releases to local news organizations, maintained social media pages

Presentation

Hamel M. G., Aronson, K. R., Noll, G., K. R. Hawkey, D. F. Perkins (2016). *Implementing a Zero Suicide Framework in the United States Air Force: Using an Engaged Scholarship-Community Collaboration Model*, Poster presented to Research Penn State 2016, University Park, PA.

Skills

Spanish (near fluency) | CITI Training Certification (Research Ethics) | Congressional lobbying experience | SPSS | Microsoft Excel