Politics of Disease Fighting
Taking Steps Towards Sufficient Action in the Fight Against Cervical Cancer

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# TABLE OF CONTENTS

**CHAPTER ONE: INTRODUCTION** ............................................................................... 1

**CHAPTER TWO: POLITICS OF DISEASE** ................................................................. 10

  - Combating Venereal Disease In The United States Army ......................... 11
  - Barriers To Fighting Breast Cancer In The United States ..................... 15
  - The AIDS Movement In The United States ............................................. 20

**CHAPTER THREE: DISEASE FIGHTING VARIABLES** ......................................... 28

  - Wealth And Resources ............................................................................. 29
  - Focusing Event ......................................................................................... 31
  - Population ............................................................................................... 32
  - Political And Social Environment .......................................................... 33
  - Nature Of The Disease ............................................................................. 35
  - Transmission ............................................................................................ 37
  - Treatments Available ............................................................................... 39

**CHAPTER FOUR: CERVICAL CANCER** ................................................................ 42

  - The Human Papilloma Virus ................................................................... 43
  - Mechanisms Of The Virus And The Evolution Into Cancer .................... 45
  - Screening, Treatment, And Vaccination .................................................. 47

**CHAPTER FIVE: CERVICAL CANCER IN CONTEXT: TEXAS** ................................. 53

  - United States And Texas Specific Data .................................................... 53
  - Analysis Of Cervical Cancer In Texas Using Variables ......................... 59

**CHAPTER SIX: CERVICAL CANCER IN CONTEXT: MEXICO** .............................. 62

  - Mexico Specific Data ............................................................................... 62
  - Analysis Of Cervical Cancer In Mexico Using Variables ....................... 69

**CHAPTER SEVEN: CONCLUSIONS** .................................................................... 72

**POST SCRIPT: LOOKING FORWARD** ................................................................. 80

**WORKS CITED** .................................................................................................. 89

**APPENDIX A: DIAGRAMS ON CERVICAL CANCER** ........................................... 97
Introduction

We are living in a world plagued by major preventable health crises. Not only are they preventable, but also the means of diagnosis, treatment, and prevention can be low in cost. What we have here is a predicament; people are suffering and dying despite the fact that both can be avoided. One can see this manifested in the context of a number of global health concerns:

- 33.4 million people, worldwide, are living with HIV/AIDS.\(^1\) In the year 2008, approximately 2 million people died from HIV/AIDS. Of the 2 million deaths, 1.4 million occurred in Sub-Saharan Africa, and one-third of them were children.\(^2\) Of the 9.5 million people in developing countries that are in immediate need of AIDS drugs, only 4 million have access to them; a mere 42%.\(^3\)

- 536,000 women die yearly from complications during pregnancy or childbirth.\(^4\) 99% of these deaths occur in developing countries.\(^5\) The average maternal mortality ratio, per 100,000 live births, of the top five most developed countries (according to the Human Development Index\(^6\)) is approximately 4.6 deaths per 100,000. In the five least developed countries (four of which are African countries) the average is 1,530 deaths per 100,000. This is an increase of

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\(^1\) UNAIDS, (November, 2009)
\(^2\) Ibid
\(^3\) Ibid (Other sources state that only 3 million people are receiving the necessary treatments – see "World Health Statistics" page 11)
\(^5\) Ibid, 10.
\(^6\) The top 5 most developed countries are, in order: Norway, Australia, Iceland, Canada, Ireland. The 5 least developed countries are, in order: Niger, Afghanistan, Sierra-Leone, Central African Republic, and Mali.
Maternal mortality is not a disease, but it can be easily prevented through pre-natal care and access to emergency obstetric care at the time of delivery. Because of this, deaths as a result of childbirth are often seen as preventable and unnecessary.

- The average malaria mortality rate in Africa is 104 deaths per 100,000. Of the 20 African countries whose rates are above this, mortality rates are as high as 229 deaths per 100,000. Additionally, a significant percentage of children under the age of five do not receive treatment with anti-malarial medications. In the Sudan 54% of children under the age of five go untreated, and in Uganda, Gambia, and Comoros over 60% lack access to treatment. In 2008, over 95,000,000 cases of Malaria were diagnosed worldwide.¹⁰

- In the year 2008, the World Health Organization reported that there were over 1,000 cases of leprosy in China, 5,000 in Bangladesh, 17,000 in Indonesia, 38,000 in Brazil, and as many as 134,184 cases in India.¹¹ While prevention of leprosy is best accomplished through early detection, control and treatment are similarly simple through the administration of drugs such as rifampicin.

The global consequences that these diseases are having cannot be reduced to economic inequality. Understanding why this predicament is manifested so often will mean looking at politics. In my thesis, I will tackle the question of the politics of preventable diseases by focusing particularly on cervical cancer. This case is particularly interesting because cervical cancer is a preventable disease, and some prevention, screening and treatment options are low in cost.

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¹⁰ Ibid, 16
¹² Ibid, 74-76.
Cervical cancer is the result of an infection by high-risk strains of the Human Papillomavirus (HPV). There are three ways to avoid infection. The first is the use of condoms, which provides approximately 70% protection from HPV. A second way to avoid infection is via vaccination. Currently, there are two vaccines available that protect against some of the high-risk types of HPV. One, *Gardasil*, protects against HPV 6, 11, 16, and 18, while the other, *Cervarix*, protects against HPV 16 and 18.\(^\text{10}\) HPV types 16 and 18 are responsible for approximately 70% of cervical cancer cases. The vaccines have been found to be nearly 100% effective against developing pre-cancerous lesions, a pre-cursor to cervical cancer.\(^\text{11}\) HPV types 6 and 11 are responsible for 90% of genital warts cases. A third solution is educating women on the disease all the while encouraging abstinence and limiting their number of sexual partners.

The disease first manifests itself as precancerous lesions. These lesions can easily be identified and treated if found at an early stage. It has been found that there is a 25% reduction in cancer risk in women who are screened three times throughout their lifetime.\(^\text{12}\) There are a number of screening options available to women, some inexpensive and others not. During the Papincolau exam, a speculum is inserted into the female and used to collect a sample of cells from the cervix. This sample is then spread and examined for abnormal cells that could be an indication of cancer or precancerous lesions. VIA, visual inspection with acetic acid is another screening option. Acetic acid is applied to the cervix and observed with the naked eye. This type of screening does not

\(^\text{10}\) PATH. "Preventing Cervical Cancer: Unprecedented Opportunities for Improving Women's Health." *Outlook* 23 (June 2007). Print.

\(^\text{11}\) Ibid

require extensively trained staff, and allows for immediate follow up if necessary. Visual inspection with Lugol's iodine, is similar to VIA, the only difference is that an iodine solution is used in lieu of acetic acid. Finally, HPV DNA tests are available. With the exception of the HPV DNA exam, screening options tend to be low in cost, and do not require the presence of a trained physician.

Once a precancerous lesion is detected, it can be treated in three ways: cryotherapy, cold knife conization, and loop electrosurgical excision procedure. These techniques are, 85%, 90-94%, and 90-98% effective respectively. Additionally, cryotherapy can be done by a non-physician and does not require hospitalization or anesthesia.

Similar to many cancers, if left untreated or undetected, cervical cancer becomes both very expensive and very difficult to treat. However, it need not get to this point. There is ample evidence that screening and treatment can be highly effective.

It has been estimated that between 288,000 and 300,000 women die from this disease every year. Globally, 510,000 cases are reported annually. Nearly 80% of the reported cases occur in developing countries, and this has caused a significant economic toll. Cervical cancer is the disease that has contributed to more than 10% of economic loss in low-income countries. In fact, this cancer is second only to mouth and throat

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14 Ibid.
cancers. In 2008, the disease led to 2,191,000 disability adjusted life years (DALYs).\textsuperscript{17} Other reports estimate numbers as high as 3.3 million DALYs.\textsuperscript{18}

The impact of this disease is not only significant, but global in scope. This alone ought to provide motivation for addressing cervical cancer; however, inaction persists.

I will begin this project by providing a context through which we can analyze this phenomenon. I will do so by situating cervical cancer in terms of other global health movements. The three discussed in the second chapter of this thesis are venereal disease, breast cancer and AIDS. The third chapter will consist of an analysis of each of these health movements. This analysis will allow me to compile a list of factors that are influential in disease fighting. Looking at these factors as a list of variables will allow me to determine whether or not a particular health intervention will occur.

In the fourth chapter, I will examine the disease itself. Providing an in depth description of the mechanisms of the disease will allow me to demonstrate why cervical cancer is a disease worth focusing on. Finally, in the fifth and sixth chapter I will analyze the disease in two countries. This will allow us to see how politics manifest in two different economic contexts. In doing this, I will discredit the popular belief that a country that has access to resources and wealth easily addresses disease.

The first country that I will use as a case study will be the United States. However, I will not be focusing on the United States as a whole. I have chosen to focus on one state in particular: Texas. There are several reasons why Texas is both a

\textsuperscript{17} Ibid
worthwhile and interesting area to study. First, it is the state with the second highest rate of infection, with the majority of these occurring in minority populations. Additionally, the areas most affected are the ones that share the border with Mexico. Further complicating disease fighting is the fact that Texas has a large number of uninsured citizens. Finally, a conservative political environment has made it difficult for any type of HPV vaccination legislation to pass.

The second country that I will focus on is Mexico. Generally speaking, cervical cancer is a significant threat to women in Latin America, and Mexico is no exception. In 1974, after having realized the significant impact the disease was having, the Mexican government established a national screening program. Due to its lack of success, the program was recently reviewed, and attempts are being made to improve it so that it prioritizes access to populations in need. Further complicating the Mexico case is the fact that as a middle-income country, Mexico is not eligible for financial support from funding agencies for the HPV vaccine despite the fact that they would benefit greatly from high vaccination rates.

One would think that the United States, or Texas in this case, would be leagues ahead of Mexico in terms of addressing cervical cancer. However, given the economic differences between the two, we will see that the state of Texas has not succeeded in harnessing their resources effectively to combat this disease. Comparing cervical cancer in Texas and Mexico will allow me to argue that economic advantage does not translate to disease fighting.
We have on our hands a predicament: preventable diseases are becoming massive issues of global health. There exists an incongruence between our ostensible commitment to others and the inaction that persists in the realm of disease fighting. I will refer to this predicament as a tension. Symptomatic of this tension are high morbidity and mortality rates despite straightforward solutions. As we can, and will continue to see, the problem is not necessarily that the knowledge and resources do not exist. The problem is inaction. I will show that this inaction is the result of privileging some of the aforementioned variables over others. I will argue that the privileging of certain variables offsets the low costs and the normative commitment we have to help others.

Our normative obligation stems from two sources. First, we are all members of a human race and we are all protected by human rights. This protection offered by human rights implies universality. These rights appeal to the humanity in all of us and therefore make us equals. Second, in an era of globalization, we are increasingly linked to one another, and this is leading to the reconstruction of social relationships.¹⁹ We can no longer claim that we do not know the suffering of others. We are implicated in a global structure, “[i]vory tower engagement” is no longer an option.²⁰

Not all disease movements have been characterized by, or resulted in, failure. There is evidence that it is possible to overcome this tension that is common to disease fighting: Legionnaire’s disease is one example. In the late 1970s an outbreak of what would come to be known as Legionnaire’s disease occurred in a Philadelphia hotel during

a conference of the United States Military Veterans Association. Within several days of the outbreak, a little over 30 deaths occurred. In response to these deaths, the Centers for Disease Control in the United States launched an unprecedented campaign. In fact, “...the government dropped millions of dollars into research to determine the cause of Legionnaires’ disease...”\textsuperscript{21} It was found that the disease was caused by a bacterium known as \textit{Legionella Pneumophilia} and treatment for those infected began almost immediately.

It has been argued that the unprecedented response to this breakout of disease was due to the fact that it was impacting a population of interest. In his history of the AIDS movement in the United States, Randy Shilts argues that, Legionnaires’ disease hit a group of predominantly white, heterosexual, middle-aged members of the American Legion. The respectability of the victims brought them a degree of attention and funding for research and treatment far greater than [AIDS victims] ... what society judged was not the severity of the disease but the social acceptability of the individuals affected with it...\textsuperscript{22}

Legionnaires’ disease serves as an illustration of disease fighting at it’s best. Within days of the outbreak, over 200 people were treated for the disease. Money was poured into research so that causes and treatments could be identified immediately. Bureaucracy in the U.S. government did not impede action, and the population affected, while it suffered losses, recuperated quickly. Sadly, Legionnaires’ disease is one of the few diseases that has received this type of attention and experienced such efficacy with regards to disease fighting.


\textsuperscript{22} Ibid, 143
In the next chapter, I will situate cervical cancer in the context of other diseases. The discussion of venereal disease, breast cancer, and AIDS will illustrate both the successes and the failures that I have made reference to. My intention in this first chapter is to identify what I will refer to as variables in order to determine what factors need to be in place in order for disease fighting to occur.
Politics of Disease

In the previous chapter, I stated that there is a tension common to disease fighting. The result of this tension is that high morbidity and mortality rates persist despite the fact that they can be avoided. While the focus of my thesis is cervical cancer, I will first analyze three different disease narratives. My intention in doing so is twofold. First, it will support my argument that disease fighting is deeply political, because all three cases presented here illustrate the extent to which politics can interfere in disease fighting. Second, from this discussion, I will derive what I will refer to as variables. Upon close analysis of each of these narratives, I will isolate factors that are important to disease fighting and these variables will help inform whether or not a disease will be met with action or inaction. In the chapter that follows, I will both elaborate on and analyze these variables. Once they are defined, I will use them to analyze cervical cancer in two different contexts. It will be useful to compare across differences because it will allow us to illuminate different variables.

I will begin by discussing the U.S. Army's attempts to combat venereal disease prior to and during World War I. Next, I will look at the fight against breast cancer in the United States. Finally, using primarily Randy Shilts' account of the AIDS epidemic, I will present the beginnings and the evolution of the AIDS epidemic in the United States. Situating my discussion of cervical cancer in the context of these three disease movements will help inform my discussion. There are a number of similarities between cervical cancer and the diseases presented in this chapter that make this comparison relevant. First, all three diseases are sexual in nature. That is, two are sexually
transmitted, and the third affects the breasts, a female reproductive organ. Also, avoiding certain sexual behaviors can prevent the transmission of both venereal disease and AIDS, as well as HPV (the pre-cursor to cervical cancer). Additionally, AIDS and venereal disease primarily impact marginalized populations, which is the case with cervical cancer both in the United States and abroad. Similar to cervical cancer, breast cancer has the potential to impact all women. These are just a few of the comparisons and associations that can be drawn between the various diseases discussed here.

**Venereal Disease in the U.S. Army**

In the beginning of World War I, the American Army was suffering major losses, but not as a result of wartime casualties. The affliction impacting a significant portion of the U.S. army was venereal disease, particularly syphilis and gonorrhea.

The very nature of these diseases, the fact that they are the result of sexual contact, made it a difficult topic to address in the context of the late 19th and early 20th centuries. With venereal disease came a series of assumptions about the behavior of the person afflicted, and these assumptions were almost exclusively negative and problematic. These assumptions eventually impacted the way the disease was addressed in a more popular context. One author, Brandt, argues that with regards to sexually transmitted disease, “...we must examine [them] not only as a biological entity, but as a disease that has engaged certain attitudes and values; beliefs about it causes and consequences that in turn affect responses to the problem.”²³ Some problematic assumptions that stem from venereal disease can be associated with race, class or even

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sexual orientation. Among these are misconceptions that those infected are of a lower social class, that they belong to a racial minority, or, more generally, that they are uneducated or ignorant.

Further complicating the issue was the generally slow and awkward response to treatment for these kinds of ailments. This is the reason why those afflicted were often exposed to what Brandt refers to as "...double jeopardy: the physiological consequences of the disease itself, as well as the deep psychological stigma."  

In the early 1900s the Victorian family unit in the United States was being threatened. Gone were the days of young marriages and large families; divorce rates increased, and women began to enter the workforce.  

As a result of these social changes, the United States began to see a rise in venereal infections, particularly in men. As a result of the increased infections and fears of what impact they would have on people's life spans or a woman's ability to reproduce, the federal government launched a sexual health campaign. The program received mixed reviews: "Although those who took comfort in Victorian proprieties found the social hygiene campaign offensive in its openness concerning sexuality, there were also critics who took the movement to task for its emphasis on moral rectitude."  

Most interesting was the fact that sexuality was being introduced into the public sphere. The U.S. War Department’s campaign was born out of this political and social environment.

History showed that the American troops had a tendency to give into what was euphemistically referred to as 'sexual unrest.'  

Troops on the border of Mexico and

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24 Ibid, 5
25 Ibid, 7
26 Ibid, 49
27 Ibid, 52
Texas in the year 1916 were found to have a rate of infection of 288 per 1000: approximately 30% were infected with some type of venereal disease. These high rates led to the creation of a commission whose purpose was to “clean the camps.”

One of the culprits was what was affectionately referred to as the “patriotic prostitute” or the “charity girl.” This female figure would voluntarily travel to camps where army men were residing and invite the men out for dinner. Often, the men were able to enjoy more than a nice meal. It was found that the motivation for this particular type of behavior stemmed from the way soldiers were perceived in popular culture. According to Brandt, “[t]he peculiar charm and glamour which surrounds the man in uniform causes an unusual type of prostitute to spring up in time of war. Girls idealize the soldier and many really feel that nothing is wrong when done for him.” This attitude made the girls feel as though they were aiding the troops despite the fact that they were partially responsible for the spread of sexually transmitted diseases amongst the soldiers.

In reaction to this, the Social Hygiene Instruction Division was created by the U.S. War Department. Their goal was to decrease the number of infections in camps by openly supporting continence and abstinence in the camps. One tactic that was employed was the creation of propaganda such as fliers, posters, and films. One such film, *Fit to Fight*, told the story of five drafted soldiers who were either dismissed from the army or physically deformed as a result of venereal infections. The main goal was to re-create the image of American masculinity so that the soldiers would avoid engaging in illicit sexual behavior. Brandt explains to the reader that, “*Fit to Fight* and the social hygiene

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28 Ibid, 58
29 Ibid, 81
30 Ibid, 81
31 Ibid, 68
campaign in general attempted to define a new male sex role – powerful yet pure, virile yet virginal – perhaps best represented for the Progressive generation in the figure of Theodore Roosevelt.”\textsuperscript{32} The hope was that reforming the way males were perceived in popular culture would change the way that they behaved.

The reactions to venereal diseases in the army were very much a product of the time. One influential factor was the increasing strength and popularity of the progressive movement in the U.S. In fact, Brandt goes so far as to argue that the program helped define the Progressive movement: “The efforts directed against venereal diseases in the course of World War I serve to define what has come to be known as ‘Progressivism.’ The Progressive impulse had two concentric circles of emphasis: morality and efficiency.”\textsuperscript{33}

However, as many sexual health programs embedded in morals often do, the Army’s campaign failed. What was found was that “Soldiers nevertheless continued to engage in sexual activity, and the national crusade against prostitution could not prevent them from acquiring venereal infections.”\textsuperscript{34} Whether they were on U.S. soil or at a U.S. camp in France (this proved to be a big point of concern for both the French and the Americans), the American soldiers still found ways to engage in sexual activity that could result in infection. Overall, the impact venereal diseases had during the First World War was significant: “[a]t home and abroad during the war, almost seven million days of active duty were lost to venereal diseases, the most common illnesses in the service next to influenza.”\textsuperscript{35} The eventual victory of the allied forces only renewed fears that the army

\textsuperscript{32} Ibid, 69
\textsuperscript{33} Ibid, 120
\textsuperscript{34} Ibid, 80
\textsuperscript{35} Ibid, 115
was corrupted and lacked discipline.\textsuperscript{36} With the war won, there would be no incentive to remain abstinent. The soldiers would return to their old ways. In reaction to this, at the end of the First World War, a strict regimen of sexual education and proper conduct was enforced; the idea being that this combination could stop the spread of disease.

The environment of the late 19\textsuperscript{th} and early 20\textsuperscript{th} centuries was not conducive to a successful sexual health campaign. Banning prostitution near camps and expressing the dangers of sex to the soldiers seemed to have little to no impact on the soldiers. Additionally, employing tactics such as posting fliers and showing films did not have the desired effect. Venereal diseases could have been avoided by enforcing abstinence or by not allowing soldiers off base. While steps were taken, they proved inadequate, and the American Army suffered because of that.

The next section of this chapter will focus on the fight against breast cancer in the United States. Among other things, this narrative will illustrate how disease fighting cannot be successful if the disease is not well understood.

**Breast Cancer**

Several authors divide the breast cancer movement into three distinct movements. The first occurred before the 1980s when women’s organizations were created that functioned both politically and socially with regards to the fight against breast cancer. While some tried to advance research in the medical field, others simply provided emotional support to women suffering from the disease and their loved ones. The second era took place after the 1980s when “…grassroots organizing occurred in response to the

\textsuperscript{36} Ibid, 117
suddenly emerging new disease, AIDS."\textsuperscript{37} This can be attributed partially to the fact that many outspoken feminists who were championing the breast cancer movement happened to also be involved with the AIDS movement. Some authors argue that the AIDS movement coinciding with a pivotal point in the breast cancer movement led to a cultural backlash.\textsuperscript{38} Additionally, the conservative political environment of the time slowed any potential progress because women’s health issues were pigeon-holed as abortion issues and were therefore marred by contention. According to one author, “[i]n the health arena, the abortion politics of the Reagan and Bush administrations had produced a chilling effect on biomedical research related to some aspects of women’s health...”\textsuperscript{39} By the late 1980s the third era began which became known for the beginning of independent grassroots breast cancer movements, separating themselves from the AIDS movement.\textsuperscript{40}

Some factors helped push breast cancer to the forefront both as a social and political issue. The disease emerged as an issue at the same time that larger social movements related to women’s rights were gaining strength. The Women’s Health Movement of the 1960s and 1970s served as a base for political and social action.\textsuperscript{41} Additionally, the fact that breast cancer impacted all women equally meant that there could be no room for social stigma as we saw in the example of venereal disease. Everyone seemed to know someone who was suffering from the disease. In fact, some believed that, “...cancer is an issue that can find a broad base of supporters and unite

\textsuperscript{39} Ibid, 215
liberals and conservatives alike... 'to oppose big spending against cancer was... to oppose Mom, apple pie, and the flag,'  

42 This wide base of supporters of victims helped breast cancer gain ground as both a political and social issue.

Finally, in addition to the non-discriminatory nature of the disease, and the momentum coming from other women's movements, breast cancer had several high-profile outspoken cases. This (as we will see in the case of HIV/AIDS) can be critical for action. A high-profile diagnosis can translate to increased awareness, and that can translate into more funding for research and treatment. For some, it is essential to understand the...

...cancer activism of the 1990s [as a] wave of 'coming out' or 'going public' by well-known women who had been diagnosed with breast cancer in the mid-1970s. The media paid attention to prominent women who underwent breast cancer surgery including: 'Marvella Bayh, wife of Indian Senator Birch Bayh, the actress Shirley Temple Black... Betty Ford and Happy Rockefeller. 43

These types of cases helped the breast cancer movement gain more support.

However, despite the myriad of factors that could help propel the movement forward, some had an opposite effect. The non-discriminatory nature of the disease meant that many groups could become involved. However, this led to divisions amongst members of the movement and thus fragmented and delayed progress. In addition to this, it also meant that anyone could become involved or become a key player in the "business." It became clear, rather quickly, that breast cancer was a disease that could bring in a significant amount of profit and power. For that reason, the disease became


43 Ibid, 10
competitive. For Kasper and Ferguson, it was “[b]reast cancer’s visibility, accompanied by a bonanza of economic and political possibilities, [that] made the illness the province of entrepreneurs. Breast cancer [became] a source of economic gain.”44 What resulted from this was backlash against the cancer establishment. According to Boehmer “…breast cancer started as a mainstream issue; therefore, the progressives among cancer activists have pushed against coalition building with a cancer establishment that has neither served them nor represented their interests in the many years of their existence.”45 Breast cancer victims wanted an organization that was supporting their needs, not big business. Authors on the politics of breast cancer, such as Kasper and Ferguson, have concerned themselves with bringing women together and calling for action. These two aforementioned factors have managed to drive the breast cancer community apart and therefore weaken its potential political and social power.

Writings on the breast cancer movement have been done mostly by affected women who self-identify as feminists. It is partially due to this that many voiced concerns over living in a society with both a male-dominated political and medical field. In the year 1979 a study was conducted that found that “…doctors treated men and women who complain of the same symptoms differently. Doctors were more likely to refer male patients for diagnostic tests and to attribute women’s complaints to stress or hypochondria.”46 Even in the beginning of what can be referred to as the breast cancer movement, women seemed to be at a distinct disadvantage.

There are several examples that show how the male dominated medical and political world has impacted the breast cancer movement. One is that elected officials, mostly men, vote on the United States budget, which is responsible for funding medical research. Authors such as Kasper, Ferguson, and Altman argue that because it is not a disease that significantly impacts men, funding remains more than inadequate. Another example is that medical technologies have not been improved upon or updated so that they cater to women more. For example, the mammography has not been improved upon despite the fact that it has been proven to be problematic as a screening tool. This can be attributed to the fact that there are relatively high false-positive rates, and the fact that the technology has not been changed in recent years. Kasper and Ferguson seem to sum it up most adequately:

...controversies in breast cancer research demonstrate many of the problems that women’s health, in general, has suffered at the hand of a male-dominated, hierarchical health system that is based on a biomedical model of medicine... breast cancer is impacted by behavioral and environmental factors and is not a major health problem for men, it has received low priority, funding, and attention.\footnote{Kasper, Anne S., and Susan J. Ferguson. \textit{Breast Cancer: Society Shapes an Epidemic}. New York: St. Martin's, 2000. Print.}

Another major source of concern for breast cancer patients is the significance, and quasi-monopoly, that certain pharmaceutical companies hold. What is interesting is that in many cases, these pharmaceutical companies play a significant yet behind-the-scenes role. ICI (Imperial Chemical Industries) is a multibillion-dollar pharmaceutical company in the United States that behaves in this exact way. Multiples times a year, every year,
...women participate in run and community-based events that are planned under the NBCAM (National Breast Cancer Awareness Month) banner. Few of these women know, however, that the ICI (Imperial Chemical Industries) has power of approval over every poster, pamphlet, and advertisement used by NBCAM.\textsuperscript{48}

It just so happens that one of the major goals of their campaigns is early detection through mammography. The mammography machine, film, and processing creates a massive profit for the pharmaceutical industry.

Breast Cancer is still a major killer of women despite all of the factors working in its favor. One concern that is voiced frequently is that the women affected have managed to lose their hold on the movement. Having men and pharmaceutical companies take the reigns has led to stagnation with regards to both technological advancements and improved treatment and prevention options. It has been argued that one possible solution would be for women to regain their agency as the primary actors in the breast cancer movement and come together to fight this common enemy.

The final section of this chapter will be dedicated to the AIDS movement. Similar to the venereal disease narrative, the AIDS narrative will show us how a disease that is negatively perceived is not attended to in the same way. We will also see how important it is to have a focusing event in order for action to occur.

**HIV/AIDS**

AIDS may be the most massive public health failure to date. The number of factors that negatively impacted the efficacious identification and treatment of the disease

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is shocking. AIDS serves as a wonderful example of the fact that public health policy is not unbiased.

The political climate of the United States in the early 1980s was right wing conservative. After Ronald Reagan swept the United States during the elections, the first Republican Senate in nearly thirty years came to power.\textsuperscript{49} One of the major issues of the election, particularly on the left side of the political spectrum, was homosexual rights. (At the time, a number of states still had laws against acts such as sodomy, and homosexuals were demanding an end to this among other things.)

Once in power, the Reagan administration vowed to curb United States' expenses and to cut the budget. This promise resulted in cuts to the budget of the Centers for Disease Control. The Reagan administration “...cut the Carter budget’s recommended $327 million in CDC funding to $161 million.”\textsuperscript{50} These kinds of budget cuts were debilitating to any progress that could have been made in researching this new and highly mysterious disease. Not only was the CDC funding meant to go towards identifying the disease, but it was also meant to fund the development of treatment and vaccination techniques. This massive cut in funding made this nearly impossible.

AIDS began by manifesting itself as a series of mysterious cancers and diseases. The two most common manifestations were \textit{Pneumocystis Carinii Pneumonia} and \textit{Kaposi's sarcoma}. The population most affected was homosexual males. Those who were afflicted, and many who wrote about the disease after the first years believed that the inaction could be attributed to the fact that those impacted were members of this marginalized population. In his book \textit{And the Band Played On: Politics, People and the}


\textsuperscript{50} Ibid, 55
AIDS Epidemic. Randy Shilts provides a detailed account of the first few years of the AIDS epidemic. He explains:

The NCI (National Cancer Institute) conference fueled [the] suspicion that no one cared because it was homosexuals who were dying. Nobody came out and said it was all right for gays to drop dead; it was just that homosexuals didn’t seem to warrant the kind of urgent concern another set of victims would engender. Scientists didn’t care, because there was little glory, fame, and funding to be had in this field; there wasn’t likely to be money or prestige as long as the newspapers ignored the outbreak, and the press didn’t like writing about homosexuals.\(^{51}\)

The National Cancer Institute conference took place in 1981 shortly before the disease took its 74\(^{th}\) victim in the United States.\(^{52}\) In fact, it was not until the first heterosexual cases appeared that the disease began to draw national attention. Similarly, it was not until the first heterosexual cases were confirmed that an article appeared in a national daily newspaper. The article was entitled: ‘New, Often-Fatal Illness in Homosexuals Turns Up in Women, Heterosexual Males.’\(^{53}\) Further delaying widespread knowledge of the disease was the fact that the second population most affected was intravenous drug users. The disease was claiming the lives of yet another population that the conservative environment of the United States at the time was unwilling to support.

Publications, of any kind were extremely important to the AIDS movement in the United States. Whether it was because the disease was receiving positive, negative, or no attention at all, the impact it had on the progress of disease fighting was important. Poor media coverage and documentation were often blamed for the lack of public awareness of

\(^{51}\) Ibid, 95
\(^{52}\) Ibid, 100
\(^{53}\) Ibid, 126
AIDS. Early on, reports of this new mysterious disease were often placed at the end of any publications and omitted the fact that its victims were primarily homosexuals: "The report, therefore, appeared not on page one of the MMWR (Morbidity and Mortality Weekly Report) but in a more inconspicuous slot on page two. Any reference to homosexuality was dropped from the title, and the headline simply read: *Pneumocystis* pneumonia – Los Angeles."\(^{54}\) Lack of media attention further delayed increased public awareness.

In 1982, a significant number of people in the United States still had never heard of this mysterious homosexual disease that was spreading at an alarming pace.\(^{55}\) It was not until a report in the *Journal of the American Medical Association* was released in 1983 that the greater American public became aware of the disease on a large scale. Unfortunately, the article contained false information. This article stated that this new disease could be spread through routine household contact. This was highly damaging for the AIDS movement because the article "...lent scientific credibility to ungrounded fears; the social damage would linger for years..."\(^{56}\) In many ways, it gave people even stronger grounds from which they could condemn any contact with homosexuals (or intravenous drug users).

Shortly before this, the homosexual population in the United States also received a wake up call through a publication. In 1983, Larry Kramer, a gay rights activist published an article in the *New York Native* entitled *1,112 and Counting*. In the article, Larry Kramer wrote:

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\(^{54}\) Ibid, 68-69  
\(^{55}\) Ibid, 173  
\(^{56}\) Ibid, 301
If this article doesn’t scare the shit out of you we’re in real trouble. If this article doesn’t rouse you to anger, fury, rage and action, gay men may have no future on this earth. Our continued existence depends on just how angry you can get…

Unless we fight for our lives we shall die. In all the history of homosexuality we have never been so close to death and extinction before. Many of us are dying or dead already.57

Larry Kramer’s angry and revealing article came as a shock to the homosexual community. In the end, he condemned gay men, the government, the mayor of New York, gay doctors, doctors and researchers working with the government, and many others. His attention was to instill anger in the gay community in the hopes that this would spring them into action. Homosexuals could no longer sit back and pretend that this epidemic was not their problem.

This article also had a significant impact on where the bulk of the U.S. AIDS movement would be focused. Despite the fact that nearly half of all of the AIDS cases in the United States were in New York, the movement relocated to San Francisco.58 In New York, AIDS policy “…would be little more than a laundry list of unmet challenges, unheeded pleas, and programs not undertaken.”59 While the shift meant that New York’s Mayor Ed Koch, who was resistant to speaking openly about the epidemic, no longer had the power to stop the movement from progressing,60 this was not all good news for the AIDS movement in the United States. Unfortunately, AIDS politics in San Francisco

57 Ibid, 244
were divided because of a former rivalry in gay politics. This rivalry would eventually delay a series of steps that could have slowed down the spread of the disease.

In 1983, a portion of the citizens of San Francisco was attempting to recall Mayor Feinstein’s election. The debate surrounding the recall election deeply divided the gay electorate in the city. The Harvey Milk Gay Democratic Club “…was one of the few major political organizations in the city to support recall [election]…”61 Opposite was the Alice B. Toklas Memorial Democratic Club “and such groups as the Coalition for Human Rights, who favored a low-key approach to the epidemic, fearing that panic could spread to heterosexuals who might resort to such unsavory actions as mass quarantine of gays.”62 These two contrasting approaches to the disease separated the residents and voters of San Francisco into two distinct camps, and each of these refused to work with the other. Additionally, each group had different spheres of influence. According to Shilts, “[t]he Milk Club might curry more favor among the city’s two congressional representatives and sundry state legislators, but the Toklas Club carried the weight in matters pertaining to the city and county of San Francisco, including health policy.”63 Divisions in local politics further hindered action.

This rivalry impacted every aspect of AIDS politics in San Francisco. In fact, it became very important during the debates over the closure of the San Francisco bathhouses. While one demanded the complete closure of all baths, the other believed that an awareness campaign would be sufficient. This sharp political divide delayed any

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62 Ibid, 279
63 Ibid, 279
progress that could be made. The time that it took to decide whether or not the bathhouses ought to remain open was enough to infect even more men.

Arguably the most significant impact that any single event had on the disease was the public diagnosis and eventual death of Rock Hudson. Until July of 1985, Hudson kept his diagnosis secret, with doctor's attributing his sickly appearance to liver cancer. Shilts explains to us the extent of the impact that his diagnosis had on the movement:

AIDS was on the front page of virtually every Sunday morning paper in the United States. Any local angle was pursued with a vengeance, and entertainment sections were crowded with retrospectives on Rock Hudson’s career. There was something about Hudson’s diagnosis that seemed to strike an archetypal chord in the American consciousness.64

After Rock Hudson’s death, Ronald Reagan, a longtime friend gave his first speech, as President of the United States, on the impact of the disease. By this time, 1987, 36,058 Americans had been diagnosed and 20,849 were dead.65

The United States is known worldwide for having access to the most advanced medical care in the world, and yet everyday people are infected with viruses like HIV. Data provided from the CDC from 2006 and 2008 indicate just how frequent new infection of HIV is. According to the study, “[a]t the end of 2006, an estimated 1,106,400 persons... in the United States were living with HIV infection, with 21% undiagnosed.”66 By virtue of the fact that acquiring a disease such as HIV is avoidable, these rates of infection are quite elevated. Not only that, but prevention is as simple as using a condom

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64 Ibid, 578
65 Ibid, 596
during sexual activity. A condom, which costs, on average, fifty cents to one dollar.\textsuperscript{67}
This is all occurring in the context of the United States - one of the richest and most
technologically advanced countries in the world. This begs the question: if the United
States is unable to address this, then what country will?

These narratives bring the complications and tensions that surround disease
fighting to the forefront. The three cases support my argument that we ought not attribute
these tensions or complications simply to economic inequality. It becomes clear that in
order for a disease to be adequately addressed, a number of factors need to fall into place
at once. While it is difficult to assign levels of importance to each variable, these cases
illustrate the fact that when certain ones are out of place, successful disease fighting is
stifled. We see in these cases that at times, certain factors are privileged over others. One
would think that political support and resources would be adequate, but the breast cancer
case provides us with evidence that these are not absolutely privileged. The AIDS
narrative shows us just how powerful bias and prejudice are in the world of disease
fighting; in other words, who a disease impacts is extremely important. The venereal
disease case shows us that when a disease is sexual in nature, it is much more difficult to
openly address. When a disease is the result of an action that is generally perceived as a
taboo, it is much harder to confront. Finally, what we see in all three cases is that
resources and wealth are not the silver bullet. Disease fighting is deeply political.

Disease Fighting Variables

In this chapter, I will present seven variables that contribute to successes in disease fighting. My intention is not only to define these variables, but also to begin to address them in the context of cervical cancer. These variables are drawn directly from my analysis of the three disease fighting narratives laid out in the previous chapter. I believe that they serve as predictors and can help explain both action and inaction. These variables can help us answer the question: why is there inaction in the context of a public health crisis? Action has the potential to bring strong returns, so what needs to happen for action to be made possible? With regards to cervical cancer, these variables will help me predict what would lead to sufficient action.

Before launching into what I will consider sufficient action for the sake of this work, I will first define the term. Insufficient action would be the continuation of current practices, and making no attempts to decrease the burden of cervical cancer. Action will not be considered sufficient until we see a significant decrease in the number of cervical cancer cases. Given that vaccination has the potential to decrease cervical cancer cases by 70%, I would say that sufficient action is when we have reduced the burden of the disease by that same 70%. Vaccination is the single action that can decrease the burden of the disease by the most significant margin. Because of this, for the sake of my thesis, sufficient action, in the context of cervical cancer will refer specifically to vaccination. However, vaccination is only one of the many actions that can help reduce the burden of cervical cancer. While there is a spectrum of actions that can be taken in order to decrease both morbidity and mortality, it has been found that widespread vaccination
would be effective in both resource rich and resource poor nations. I would like to note that if some other mechanism were capable of producing similar outcomes, short of drastic social or cultural transformations, I would endorse said alternative. Currently, no other mechanism is capable of doing this and therefore vaccination stands alone. In other words, this action is not sufficient because it is vaccination; vaccination is sufficient because it produces the best outcomes.

The variables laid out in this chapter will allow us to determine what context a disease must occur in so that sufficient action may follow.

**Wealth and Resources**

An important question to ask is whether or not the country or the people have the means to tackle the disease in question. While economic standing and purchasing power are not the primary reasons for inaction, they are important to consider. Additionally, we should consider both aggregate wealth and the way that wealth and resources are distributed in the nation. A wealthy nation has wealth and resources, but if it is not well distributed, then marginalized population will not benefit from them.

Having the government funnel money into the research and development of a new disease and new treatments can be critical to disease fighting. We see this in the example of Legionnaire’s disease in the United States in the late 1970s. The U.S. government, after the death of around 30 veterans, poured money into investigating what was killing these men. The response to this disease was so swift that it has been referred to as unprecedented. In very little time, the disease was identified and addressed. Therefore,

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we can conclude that if the AIDS outbreak (for example) had been allotted as much time and as many resources as the Legionnaire’s outbreak, perhaps the death toll would not have risen so quickly. However, it should be noted that not all countries have or need research and development facilities, more often than not these technologies are driven by the resource rich nations.

Several times, I have made the claim that wealth and resources are not the only thing needed for a disease fighting intervention to be successful. This point is illustrated in the narrative on breast cancer. Despite the fact that the fight against breast cancer has had access to many resources, it has not benefited from this as much as one would anticipate. We can also see this played out in the narratives on the venereal disease campaign established by the U.S. government. Nonetheless, when a country or a people do not have access to either, it is far more difficult for solutions to the disease to become available. I would like to argue that a country or person with adequate resources is one that has the potential to achieve sufficient action.

Prevention and treatment options do exist for cervical cancer. Not only are there many, but also a significant number of them are inexpensive. Therefore, it is not a disease that is demanding in terms of resources, particularly when one considers the number of life years lost because of it. What we end up finding in the case of cervical cancer is that addressing the issue on a global scale would be immensely productive purely in economic terms. As stated in the introduction, cervical cancer contributes significantly to Disability Adjusted Life Years (up to 3.3 million) and economic loss, particularly in resource poor nations.

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69 See Chapter One where the DALYs and economic loss as a result of the disease are explicitly stated.
Focusing Event

When a disease has a spokesperson, or a famous face, there is a tendency for it to be addressed. This is partially because it makes the disease more accessible to the average person. It is also because it can draw national, or even international, attention. However a focusing event can manifest itself in a number of ways. High incidence rates alone can serve as a focusing event (as we will see in the case study on Mexico) because so many people are being affected.

Many AIDS activists believe the Rock Hudson’s diagnosis put the disease on the map and drew national attention. In fact, evidence exists that this was the case. As previously mentioned, the first time that United States former President Ronald Reagan addressed the disease as president was after the death of his friend Rock Hudson. Prior to that, despite the tens of thousands of people who had already died, the president had failed to address the disease. Rock Hudson’s diagnosis and death forced the American public to confront what was happening. In the early 1990s, a second celebrity was publicly diagnosed with HIV, former Los Angeles Lakers player Earvin ‘Magic’ Johnson. Johnson has since been involved with AIDS activism, including raising AIDS awareness in poor African American neighborhoods in the United States.

A focusing event is important when it comes to successful disease fighting. Unfortunately, cervical cancer has yet to draw massive national attention. Globally, it remains a disease that impacts fewer women than breast cancer, for example. High incidence rates have functioned as a low-grade focusing event and have helped raise breast cancer awareness.
There is currently no face to the cervical cancer movement either in the United States or abroad, and the number of affected women in resource rich nations remains low. Because of this, the disease manages to fly below the radar. This lack of focusing event may be one of the reasons why inaction persists.

**Population**

The population most affected by a disease is critical. Marginalized populations are less likely to have their voices heard either because they are a minority, because they cannot participate politically, or because their voices are silenced. Generally, being part of a group that has a strong voice in politics is important for successful disease fighting. It is the needs of those whose voices are heard the loudest that will be addressed more aptly than others.

The case that best illustrates this is AIDS in the United States. As was mentioned in the previous chapter, the stigma against and unpopularity of gay men greatly slowed down any progress that could be made. Not only that, but gay men were also only well represented in the city of San Francisco. In New York, where nearly half of the AIDS cases were diagnosed, the mayor did not represent them for fear of becoming unpopular or being seen as siding with the gay population.

The venereal disease case also casts a light on the importance of this variable. In the case of eradicating venereal diseases in the U.S. army, we see that the government went to great lengths by creating campaigns, films, providing information, etc. This can be attributed to the fact that this was a population of interest. The U.S. army needed to be protected and healthy or else the American people would not be. It was a matter of
national security and therefore something had to be done. It had to be done immediately, no matter what the cost.

Breast cancer is also pertinent because it shows that even when a disease is impacting a significant portion of the population in a non-discriminatory manner, the movement can still suffer. One of the concerns voiced most often in the literature on breast cancer is that women need to take control of the movement and take action into their own hands. Because women are not well represented in the government, funding for research from national organizations is not a priority in the way it would be if it were a men’s health issue.

In the United States, the populations most affected by cervical cancer are African Americans and Hispanics. These two groups are not well represented on the political level and many live below the poverty line with little to no access to healthcare or education. Globally speaking, 80% of cervical cancer cases occur in resource poor settings. With regards to any disease, being in this type of position socially can translate to inaction and delays.

Political and Social Environment

Population serves as a segue into another important variable: the political and social environment. The political environment in which a disease unfolds can be extremely influential. It has the potential to either inhibit or encourage progress in terms of disease fighting. It is also important to know whether or not the population most affected is one that is socially accepted or discriminated against. This variable is taking into consideration political, social and economic marginalization.
This is particularly pertinent in the case of the United States where the government funds many of the establishments charged with the responsibility of identifying a new disease and presenting solutions. Politicians regularly vote on a budget and therefore have a significant impact on which diseases are of interest and ought to be focused on. This was brought up in both the discussion of the AIDS and the breast cancer movement in the U.S. In the case of AIDS, a powerful right wing sentiment sweeping the nation pushed gay rights and gay health to the bottom of the political agenda. In the case of breast cancer, women in the movement have argued that a male dominated Congress and Senate are unable, or perhaps unwilling, to adequately respond to the disease.

What is controversial about cervical cancer, both politically and socially is that it begins as infection by the Human Papillomavirus, which is sexually transmitted. The most contentious part seems to be the debate over whether or not to vaccinate young girls against HPV. The major concern here is that if the government makes vaccination against a sexually transmitted virus mandatory for grade-schoolers, it is in some way condoning adolescent sexual behavior. Given that this contradicts Texas’ abstinence only education program, which is primarily endorsed by conservative politicians, HPV vaccination remains a political issue. As I will discuss in a later chapter, the conservative environment in certain states such as Texas has pushed any type of vaccine legislation to the bottom of the political agenda.

Having a particular political or social environment, such as a conservative one for example, is not what is problematic in disease fighting. The problem arises when the environment of the time is not supportive of, or understanding of those affected. This tension has the potential to either slow or inhibit disease fighting. There is a tendency for
disease fighting to be at its best when the environment of the time is one that supports those affected, or one that is comfortable with confronting the disease. We only need to turn to the case of Legionnaire’s disease, in the introduction, to see this played out.

Nature of the Disease

When considering the nature of the disease, one should consider both the biology of the disease and how the disease is perceived. The three diseases presented in the previous chapter all have different biological functions (bacteria, cancer, virus), which in turn have implications for how they are treated. These differing biological functions can impact the way that the diseases are addressed.

Simply starting with the etymology and definitions of the three words, we see a sharp distinction. The word virus comes from the Latin term for “venom” or “poisonous emanation.”\textsuperscript{70} Merriam Webster defines the word as “venom” or, “the causative agent of an infectious disease” or, “something that poisons the mind or soul.”\textsuperscript{71} Interpreting the virus as venom in the body carries a strong negative connotation.

Cancer is defined as “a malignant tumor of potentially unlimited growth that expands locally by invasion and systematically by metastasis” or “an abnormal bodily state marked by such tumors.”\textsuperscript{72} While this is by no means a positive definition, the connotation is less negative than that of a virus. It is not something that poisons the body, but a foreign object that appears within it. Bacterium are defined, quite simply, as “any of a domain of prokaryotic round, spiral, or rod-shaped single-celled microorganisms


\textsuperscript{71} Ibid

\textsuperscript{72} Ibid
that... are often aggregated into colonies or motile by means of flagella, that typically live in soil, water, organic matter, or the bodies of plants and animals..."^{73}

Simply by comparing definitions we see that all three are perceived and dealt with differently. Bacteria, which cause syphilis, tend to be easier to identify and treat. This is because bacteria have their own mechanism and antibiotics can be used to attack them without necessarily interfering with the body. Viruses rely both on their own machinery and also the human body’s machinery. This not only makes them more difficult to identify, but also harder to stop. A cancer, on the other hand, is inherent in the body. In that sense it is less otherized than bacteria or viruses, which are seen as something that is invading the body. Cancer is often viewed as a random type of malfunction within the body. While engaging in certain risk behaviors can be associated with cancers (for example smoking and lung cancer), a cancer diagnosis may still come as a shock. Acquiring a virus is most often associated with exposing oneself to either risk behaviors or others who are infected. In some ways, it can be interpreted as voluntary or even intentional.

While the concern in this thesis is not the speed at which action occurs, it is valuable to note that viruses, tend to be dealt with more slowly quite simply because it takes longer to identify the mechanism of the disease, and therefore create treatment options. A cancer is more complex because it is very difficult to treat in advanced stages. Because of the differences in time that it tends to take in order to identify and treat a bacteria, virus or cancer, a disease fighting movement for a cancer will (generally) fall between the virus and the bacterium in terms of the swiftness of the response. The bacterium will be addressed the fastest.

^{73} Ibid
The disease fighting narratives show us that the fight against breast cancer has received greater social and political support than the AIDS or venereal disease movements. We can attribute this to the fact that cancer victims are perceived differently. Additionally, the lack of social stigma against breast cancer victims encouraged women to become spokespersons for the disease. This kind of positive attention made it easier for the victims to gain access to better funding and research opportunities.

The problem for the breast cancer movement is that little is known in terms of prevention of the disease. Without prevention, one needs to rely on screening and treatment. However, once breast cancer is in an advanced state, it is extremely difficult to treat. The major barrier for breast cancer is a lack of knowledge of the disease itself.

Cervical cancer is unique in the sense that it begins as a virus and evolves into a cancer. For that reason, I believe prevention is often ignored or delayed, despite the fact that there exist a number of viable and effective options for treatment or screening. In my opinion, were it not linked to a virus, cervical cancer would be handled similarly to breast cancer.

**Transmission**

The way that a disease is transmitted can often impact how and when a disease is addressed. With regards to transmission, the key distinction to be made is whether or not a disease is sexually transmitted.

The history of venereal disease in the United States Army serves as an adequate illustration of how venereal disease campaigns have failed in the past. As previously mentioned, Brandt, the author of *No Magic Bullet* argues that because infection with a
venereal disease carries a number of assumptions, one ought to focus both on the physical and emotional manifestations of it. Victims of a sexually transmitted disease are often perceived as uneducated, impoverished, lacking hygiene, or promiscuous. It is these assumptions that have the potential to complicate treatment and support. For that reason, it is important whether or not a disease is sexually transmitted. This is because in order to acquire a sexually transmitted infection, one has to have engaged in sexual behavior. An airborne pathogen can be acquired because one is in the same space as another infected individual. These two means of transmission are perceived very differently. Typically, a victim of an airborne pathogen will be afforded different, and most likely better, treatment than the victim of a sexually transmitted infection. However, we should note that social discrimination could still occur, particularly in cases where the airborne pathogen is highly contagious.

The previously discussed cases back this finding. Once again, breast cancer is treated differently because it is not a disease that is acquired through any type of behavior. AIDS serves as a pertinent illustration of this because not only is it sexually transmitted, but initially, the only known means of transmission were anal and oral intercourse. These sexual activities were considered deeply taboo. As we see in the history of the AIDS movement, failures in education campaigns for the San Francisco bathhouses led to an increase in the number of infections in the city. The safe sex guidelines made available to those frequenting the bathhouses were ill received and often ignored. In many cases gay men simply refused to take any type of advice with regards to their sexual behavior from what they considered a ‘straight’ medical system.

With regards to cervical cancer, it is important to note that the human papillomavirus that can develop into cervical cancer is sexually transmitted. While sexual intercourse itself is not necessary, genital-to-genital contact is sufficient. As well will see, this if one of the factors that has made prevention through vaccination quite controversial and has therefore complicated disease fighting.

Treatments Available

Having treatment options is quite obviously essential to successful disease fighting. However, whether a treatment is expensive or difficult to gain access to is also important. If either is the case, those infected are more likely to suffer and inaction may persist. The diseases studied in the previous chapter all serve to illustrate the influential role that treatment options play.

AIDS, being a retrovirus, was extremely difficult to identify. Because of this, treatment options were not available until well into the epidemic. It was not until approximately three years in that the disease was isolated and defined.\(^7\) This delay obviously complicated disease fighting with regards to the AIDS virus.

With regards to breast cancer, some patients believe that treatments available are inadequate and dictated by the profit margin of the pharmaceutical companies. The hope is that once more funding and energy is devoted to breast cancer research, more will be understood about the disease and better treatment options will be invented. Until then, inaction will continue to persist in the fight against breast cancer.

When a disease has known treatments that are both easily accessible and simple in terms of administration, it is more likely that the disease will be addressed. The

\(^7\) Ibid
Legionnaires' disease outbreak illustrates this concept well. However, the cervical cancer case is one where we see this tension that is common to disease fighting come into play. The argument that I am making with regards to easy access is evidently false in the case of cervical cancer. Cervical cancer not only has fully developed prevention, screening, and treatment options, but the majority of these options do not require the presence of a doctor. However, women are dying daily.

When one looks at disease fighting through this framework, one can see that in order for disease fighting to occur, these variables need to be working in one's favor. By virtue of the fact that we are concerned with seven different variables, it is rare for all seven to do this. More often than not (and this is illustrated in all three of the cases included in the last chapter) some are working in one's favor and others are not. It is difficult to rank the variables in terms of which ones are most important. For that reason, I believe that having any one out of place could be a barrier to disease fighting.

I attribute the persistence of this tension in disease fighting (the incongruence between our normative commitment to others and the inaction that we are confronted with) to the fact that the variables are constantly intervening with one another. One would think that a normative commitment, as spelled out in the introduction, and the low costs of interventions are sufficient motivation for a successful disease fighting campaign. However, what we find is that the variables offset these two factors.

If cervical cancer is to be successfully addressed, the variables will have to be changed. For example, if one of the ways of putting cervical cancer on the map is a focusing event, then we need to create one. Perhaps we could even change the discourse;
if we start to see a sexually transmitted infection as just another infection, we could reduce the biases and prejudices that so often surround the treatment of these ailments. Another option would be increasing the weight of our normative commitment. This change may motivate us into action.

In the next chapter, I will provide an in-depth look at cervical cancer. My intention is to present the prevention, screening and treatment options currently available. This discussion of the disease will make us aware of why cervical cancer is a combatable disease that could easily be controlled.
Cervical Cancer

With regards to many global diseases, public health interventions are not as obvious. In other words, a disease such as malaria can be fought from a number of angles. Some possible actions are the spraying of DEET, the mass production and administration of mosquito nets, or even the distribution of anti-malarial medications. For a number of reasons some interventions are more suited for certain environments. The way that the disease is addressed can vary depending on the community that one is working with.

With cervical cancer, solutions are simple and can be low in cost. Much research has been dedicated to determining prevention, screening, and treatment options for cervical cancer. There is little question that the combination of screening and vaccination alone can make a monumental difference in the fight against cervical cancer. In other words, we are working with a disease whose “solution” is already known.

Given this, how can we make sense of the high mortality and morbidity rates? We must ask ourselves: how do we move from inaction towards sufficient action? Further, how do we guarantee a high quality of action? However, before we address this, it is important to determine what sufficient action would be. In this chapter, I will offer an in-depth look at the mechanisms of disease, treatment, screening, and prevention. The information presented in this chapter will help support the argument that the adequate course of action, in any socioeconomic context, would be widespread vaccination. This is

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76 Appendix A, included at the end of the thesis, contains diagrams and images in order to aid the reader in understanding the science behind the disease.
important because it justifies the argument that we are working with disease that has the potential to be easily addressed.

One of the unique properties that the human papillomavirus has is that it is a virus that causes a cancer. Only a handful of other viruses are able to do this as well. Among them are: *Adenoviridae* has been linked to various solid tumors, *Hepadnaviridae* to hepaticellular carcinoma, *Herpesviridae* to lymphomas, carcinomas, and sarcomas, *Polyomaviridae* to various solid tumors, and *Poxviridae* to myxomas and fibromas.\(^{77}\)

The name Human Papillomavirus comes from the term papilloma. The term papilloma is defined as: “a benign tumor (as a wart) due to overgrowth of epithelial tissue on papillae of vascular connective tissue (as of the skin).”\(^{78}\) There are more than 100 different HPV types, and more than 40 of those 100 are sexually transmitted. These 40 plus types, “spread easily through genital contact.”\(^{79}\) HPV is divided into two categories: high-risk and low-risk. Only the high-risk strains develop into cancers, although infection by low-risk strains can also promote the growth of abnormal cells. Two of these high-risk types of HPV, 16 and 18, are responsible for 70% of cervical cancers. In total, there are 13 high-risk types: 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59 and 68.\(^{80}\) All 13 of these are responsible for abnormal cell growth in the cervix.\(^{81}\)

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Cervical cancer begins as an infection by one of the sexually transmitted types of HPV in the cervix. The cervix is "[the] lower, narrow end of the uterus that forms a canal between the uterus and vagina." However, infection with a high-risk HPV type does not necessarily develop into a cancer. The body's immune system will often fight off HPV infection on its own. In fact, "...the great majority of infections with high-risk HPV types go away on their own and do not cause cancer." 

Avoiding infection with the human papillomavirus is difficult, and this is reflected in the fact that HPV is the most common sexually transmitted infection in the United States. A study conducted in 2007 tested a group of women aged 14 to 59. In this study, a total of 26.8% tested positive for one or more strains of the virus. These high rates of infection can be attributed to the fact that penetration is not required for transmission, skin to skin contact is sufficient. However, it has been found that the "...surest way to eliminate risk for genital HPV infection is to refrain from any genital contact with another individual." Otherwise, proper use of a condom can lead to lower rates of cervical cancer.

81 Ibid
It should be noted that men are also at risk for infection with HPV. A review of 40 publications on HPV infection in men were analyzed, and 56% of these estimated that prevalence of infection in men was greater than or equal to 20%. While they did not offer an exact number, the study did conclude that there are high rates of infection in sexually active men. As a result of persistent HPV infection men can develop penile or anal cancers. They can also suffer from genital warts caused by certain types of the human papillomavirus. Infections in men are of interest to those interested in the fight against cervical cancer because they are capable of transmitting the virus to women.

The link between HPV and cervical cancer has been realized through a number of means:

1) HPV DNA has been found within cancer biopsies 2) known viral oncogenes E6 and E7 are found in cancer material 3) genes E6 and E7 code for proteins which are growth-regulators in host cells 4) E6 and E7 gene expression has been identified in cervical cancer immortalized in cell lines 5) epidemiologic investigations have identified HPV as a major factor for the development of cervical cancer 6) species specific papillomaviruses cause cancer in experimental animal models including the rabbit and cow; and human neonatal foreskin

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87 Ibid

88 E6 and E7 are both proteins responsible for the degradation of p53, another protein that is present in every cell in the body. p53 is the protein that keeps abnormal cells from dividing. While E6 and E7 behave similarly, they have different mechanisms.
infected with HPV-16 and placed in severe combined immunodeficient mice form intraepithelial neoplasms.\(^8\)

Therefore the causal link between the human papillomavirus and cervical cancer has been well researched and is uncontested.

The human papillomavirus takes the form of a double-stranded DNA. The virus is transmitted through breaks within the epidermis of the skin, meaning direct skin-to-skin contact. Some examples of HPV transmission are “…direct contact of a plantar wart virus with broken skin, sexually during intercourse, or orally during sexual activity or kissing.”\(^9\) As previously mentioned, persistent infection with high-risk types of HPV is what puts one at risk for the development of malignant tumors in the cervix.

HPV infection occurs in the dividing cell population, the basal cell layer of the epithelium. The epithelium is a type of animal tissue that lines the structure of many parts of the body, including organs and glands. The main task of the epithelium is to offer protection, and absorb, secrete or transport various bodily substances. The basal layer is the layer closest to the bloodstream. It is because of this location that the basal cells may become a reservoir of HPV DNA in the body. As cells mature, they rise upward through the epithelium until the cells with the highest DNA copy numbers are on the surface.\(^9\)

The HPV genome can be expressed, or in other words produce different proteins, in three ways:

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(a) each piece of DNA can be translated theoretically into three different proteins, depending on the site where transcription begins… (b) human cells and many viruses such as HPV use another system to generate different amino acid sequences from the same DNA sequence, known as ‘RNA splicing…’ [and] (c)…’posttranslational modification’ is used by HPV to generate diverse proteins from the same DNA sequence.\textsuperscript{92}

Cervical cancer falls into two categories. The fist is known as squamous cell carcinomas (approximately 80 to 90 percent), and the second is adenocarcinomas (the remaining 10-20 percent).\textsuperscript{93} The difference between the two is where the cancer occurs in the cervix. Adenocarcinomas occur in the glandular cells in the upper portion of the cervix, while squamous cell carcinomas begin in the cells in the bottom of the cervix.\textsuperscript{94}

A woman may become aware of infection with cervical cancer via a number of signs: “…vaginal bleeding either after intercourse, between periods of after menopause,” “…watery, bloody vaginal discharge that may be heavy and have a foul odor,” or “…pelvic pain or pain during intercourse.”\textsuperscript{95}

It can take several years for precancerous lesions to develop into full-blown cervical cancer. This is why screening is so advantageous with regards to combating cervical cancer. As was laid out in the first chapter, there are three primary screening options available to women: the Papincolau exam, visual inspection with acetic acid (VIA), and visual inspection with Lugol’s iodine (VILI). While the Pap smear can screen

\textsuperscript{92} Ibid
\textsuperscript{94} Ibid
\textsuperscript{95} Ibid
for cancer or precancers, the exam does not provide a final diagnoses. The discovery of abnormal cells may be followed up with either an endocervical curettage (ECC) or a cone biopsy. An HPV DNA test, "[a] laboratory test in which cells are scraped from the cervix to look for DNA of human papillomaviruses," is recommended as follow up for women with unclear cell abnormalities. However, HPV DNA technology remains inaccessible to the majority of resource poor settings due primarily to its high cost. One company, QIAGEN, is in the process of introducing their careHPV™ Test. This machine is designed to be more appropriate for low resource settings, although admittedly not the best in terms of quality.

Once diagnosed with cervical cancer, a health care provider will assign women with a stage of cervical cancer ranging from 0 to IV.

- Stage 0. Also called carcinoma in situ or noninvasive cancer, this early cancer is small and confined to the surface of the cervix.
- Stage I. Cancer is confined to the cervix.
- Stage II. Cancer at this stage includes the cervix and uterus, but hasn’t spread to the pelvic wall of the lower portion of the vagina.
- Stage III. Cancer at this stage has moved beyond the cervix and uterus to the pelvic wall or the lower portion of the vagina.

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97 Ibid

• Stage IV. At this stage, cancer has spread to nearby organs, such as the bladder or rectum, or it has spread to other areas of the body, such as the lungs, liver or bones.99 Each of the aforementioned stages is associated with different treatments. As I mentioned in the first chapter, there are three primary treatments available for confined cervical lesions. Cryotherapy is the treatment where the abnormal tissue is frozen until the tissue is destroyed. LEEP, loop electrosurgical excision procedure, is the removal of tissue through the use of a hot wire loop, and conization when a surgery is performed to remove a cone shaped piece of tissue from the cervix and cervical canal.100 This treatment is also known as a cone biopsy. As we saw in the first chapter, all three treatments are considered highly effective.

If the cancer is more advanced, the purpose of further testing is to determine whether or not the cancer has spread. Some options for this are: CT scan, cystoscopy, MRI, or Chest x-ray.101 More advanced cervical cancers are treated via radical hysterectomy, pelvic exenteration or radiation (either internal or external).102

Genital warts that result from infection by certain HPV types are handled differently. If the patient wishes to have them removed, either the patient or the healthcare provider can do so. Some warts disappear by themselves with no need for

medical intervention. However, generally speaking, no treatment option is better than the other.\textsuperscript{103}

The FDA has approved two vaccines that guard against viral infection. Gardasil (produced by Merck & Co.) has been approved for use in males and females aged 9 to 26, while Cervarix (produced by GlaxoSmithKline) has been approved only for women aged 10 to 25. Neither vaccine offers absolute protection from all types of HPV. Gardasil protects against HPV types 16 and 18 (for prevention of cervical cancer) and types 6 and 11 for genital warts. Cervarix only protects against HPV types 16 and 18.

As previously mentioned, HPV types 16 and 18 are responsible for up to 70% of cervical cancers. This means that 30% of cervical cancers “...will not be prevented by the vaccine.”\textsuperscript{104} Additionally, with regards to Gardasil, 10% of genital warts will not be prevented either.\textsuperscript{105} Because the vaccines do not prevent against all cancer causing HPV types, it is strongly advised that women continue to undergo periodic screening.

Both vaccines are most effective prior to exposure to the virus. In other words, neither vaccine treats an HPV infection. For this reason, it has been recommended by the FDA (Federal Drug Administration) that the vaccine be administered prior to sexual debut. Gardasil has been approved for children as young as nine years of age, and Cervarix for girls as young as 10 years of age. As previously mentioned, the vaccines

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\textsuperscript{105} Ibid
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have been found to be nearly 100% effective against developing pre-cancerous lesions.\textsuperscript{106} Additionally, mathematical modeling has shown us that introducing mandatory vaccination of 12-year-old girls in the United States would lower the number of cervical cancer cases by 95%.\textsuperscript{107}

Worldwide, the most common HPV type is 16. However, the second most common type varies from region to region. Type 33 is the second most common in Asia, 58 in South America, and 31 in Europe.\textsuperscript{108} HPV types 31 and 35 were most common in Latin America.\textsuperscript{109} Prevalence rates also vary from region to region: “HPV prevalence was five times higher in sub-Saharan Africa than in Europe, with intermediate rates in Asia and South America. Age standardized prevalence for any HPV was 26% in sub-Saharan Africa, 14% in South America, 9% in southeast Asia and 5% in Europe.”\textsuperscript{110} With the current vaccines available, the regions that benefit the most are Asia, Europe and North America.\textsuperscript{111} Studies have shown that “…a vaccine containing the 7 most common HPV types would prevent about 87% of cervical cancers worldwide, with little regional

\textsuperscript{106} PATH. "Preventing Cervical Cancer: Unprecedented Opportunities for Improving Women's Health." \textit{Outlook} 23 (June 2007). Print.


variation."\textsuperscript{112} However, the most significant barrier to the production of this type of vaccine is not a lack of technology, but an inability and lack of interest in financing the development of it.

This chapter has allowed us to understand the disease in a more in-depth manner. Becoming familiar with how it develops, how it can be treated, and how it can be prevented helps us come to a conclusion on how to address it. As was mentioned at the beginning of the chapter, it is often difficult to figure out what angle one should approach a public health intervention from. In the case of cervical cancer, I will consider sufficient action to be widespread vaccination. I acknowledge this knowing that much more could be done, that vaccination is not the only solution, and that the vaccine does not protect from HPV types that feature prominently in resource poor nations.

In the following chapters, I will look at the disease in two different contexts. These two cases, the case of Mexico and Texas, will show how both failed to adequately adopt certain solutions to this problem of cervical cancer. However, what is interesting is that Mexico and Texas did not fail in the same way. Each social, economic, and political context restricted action in its own way. The re-introduction of the disease fighting variables will help us make sense of why both interventions failed.

\textsuperscript{112} Ibid
Cervical Cancer in Context: Texas

In this chapter, I will launch into my first case study. As previously mentioned, analyzing the impact of cervical cancer in different economic contexts, will allow me to show that simply having resources does not necessarily translate to successful disease fighting. In this chapter I will focus on a state within the United States: Texas.

In the next chapter, I will analyze the impact of the disease in Mexico. It may seem that a comparison between these two countries would result in an obvious outcome; the United States is far better off than Mexico. In terms of absolute numbers, this is true. However, what we will find is that in Texas, our example from the United States, the response to cervical cancer is not sufficient, particularly given the available resources. First I will provide information on the impact that cervical cancer is having in the United States and in Texas. Next, I will describe how HPV vaccine legislation has been handled by the state in the past and finally, I will put forth an argument for widespread HPV vaccination in the state.

In the United States, approximately 6.2 million HPV infections are diagnosed every year. While the number of cases that evolve into cervical cancer is considerably smaller, every year approximately 11,000 American women are diagnosed and 4,000 die.\textsuperscript{113} Costs associated with the disease amount to approximately 4 billion dollars a year with another 1.3 billion resulting from productivity losses.\textsuperscript{114}


\textsuperscript{114} Ibid
A study conducted by Dunne, Unger et al. attempted to establish the prevalence of HPV infection in the United States. Their study found that HPV prevalence is "...highest among young persons within the first few years of their sexual debut."115 More explicitly, while overall HPV prevalence (females aged 14 to 59 years) was 26.8%, 44.8% of females aged 20 to 24 are infected with this virus.116 As we can see, HPV infection is extremely common in the United States.

In Texas in 2007, there were 400 deaths from cervical cancer, and the state had the second highest prevalence of infection in the country.117 In terms of incidence rates, cervical cancer is a burden suffered mostly by the minority populations in Texas. It has been reported that, "[c]ervical cancer incidence rates are highest in Hispanic women in Texas, with mortality rates highest in African-American women. Women in these two group are more likely to be diagnosed with cervical cancer at later stages, when the disease has already spread and is more difficult to treat."118 There is also a geographical aspect to infection, because "...rates are higher along the Texas-Mexico border, regardless of ethnicity."119

The financial burden that screening and treatment of cancer has had on the state has also been significant. In 2007 it was estimated that the state of Texas spent $21.9 billion on cancer care overall. Altogether, cervical cancer care cost the state of Texas

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116 Ibid
119 Ibid, 8
$77,400,000.\textsuperscript{120} PAP screening alone cost the state $268,200,000, and only 55.9 percent of the population (of females aged 18 and over) took advantage of this service.\textsuperscript{121} Texas is also the state with the largest number of uninsured citizens. The total population of Texas is 24,366,200.\textsuperscript{122} Of those 24 million, the uninsured population is 6,258,700 (26%), and the number of uninsured children is 1,303,000 (18%)\textsuperscript{123} These rates are significantly higher than the national average, where 17% of the adult population and 10% of children are uninsured.\textsuperscript{124}

As we can see, while Texas has rates of infection and mortality that are slightly higher than the United States, the state would benefit most from having high rates of HPV vaccination. This can be attributed to two factors. First, numerically speaking, vaccination can protect women from 70% of cancer cases. Screening is less effective in that sense: three screenings per lifetime only reduces a woman’s risk by 25%.\textsuperscript{125} Additionally, the United States already offers high quality screenings for women, so a cervical cancer intervention based on improvements in screening is not appropriate for this setting. For these reasons, vaccination is most beneficial in this context.

Introducing mandatory HPV vaccination has been a deeply contentious issue all across the United States. State action for mandatory human papillomavirus vaccination

\textsuperscript{120} Ibid, 10
\textsuperscript{121} Ibid, 13
\textsuperscript{123} Ibid
\textsuperscript{124} Ibid
began in 2007, when the vaccine was declared safe and was recommended by the Center for Disease Control. Many states (California, District of Columbia, Florida, Georgia, Illinois, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Missouri, Minnesota, Mississippi, New Mexico, New York, Ohio, Oklahoma, South Carolina, Texas, Vermont, Virginia, and West Virginia) attempted to enact legislation.\(^{126}\) However, not all states proposed mandatory HPV vaccination legislation. Some states chose to focus on legislation that would require insurance companies to cover the cost of the vaccine, while other legislation required that information on the disease be widely disseminated in the hopes of increasing awareness.\(^ {127}\)

On February 2, 2007, the Governor of Texas, Rick Perry, signed an executive order that would make Texas the first state to instate mandatory vaccination in girls aged 11 to 12.\(^ {128}\) The legislation would require that girls be immunized against the virus when entering the sixth grade from September 2008 onward. As is the case with other states, the Governor allowed for parents to opt out of the school program "for reasons of conscience, including religious beliefs."\(^ {129}\) Despite the creation of an opt out clause, government officials in the state were up in arms. Conservatives in the state condemned the order stating that it "...contradicts Texas's abstinence-only sexual education policies."\(^ {130}\) As a result of the opposition, in a vote of 119 to 21, the State House of


\(^{127}\) Text drawn from term paper by Rachel Taylor submitted December 17, 2010 to Zachary Oberfield at Haverford College


Representatives approved a bill that would nullify the Governor’s order.\textsuperscript{131} Many critiqued Governor Perry saying that the order was an “abuse of executive authority.”\textsuperscript{132} Due to a second vote that was held in April of 2007, mandatory HPV vaccine legislation cannot be mandated again until now.\textsuperscript{133}

Concern over mandatory vaccination programs was voiced in many ways. One such concern was that in mandating this vaccine, the government had crossed a line and was intervening in domestic family life. Another concern, and one that was voiced frequently in Texas, was that in providing the HPV vaccine, the government was in some way acknowledging adolescent sexual activity. The assumption was that this would lead to an increase in promiscuous behavior amongst teens. To this, Governor Perry responded: “[p]roviding the HPV vaccine doesn’t promote sexual promiscuity any more than providing the Hepatitis B vaccine promotes drug use.”\textsuperscript{134} Another significant concern surrounding vaccine legislation was who would finance the high cost of the vaccine, which is $360 ($120 per dose)\textsuperscript{?}. However, studies have been conducted that show that despite the high cost of the vaccine, it can still be considered cost-effective, “…costs of HPV vaccination might be partly offset by savings achieved by delaying the age of beginning screening and by screening less frequently.”\textsuperscript{135} A study conducted by Taira et al. confirmed this: “[a]n HPV – 16/18 vaccine for 12-year-old girls would reduce

\textsuperscript{133} Ibid
cohort cervical cancer cases by 61.8% with a cost-effectiveness ratio of $14,583 per quality-adjusted life year (QALY)." Furthermore, approximately 120 insurance companies in the United States cover the cost of the vaccine. This number translates to approximately 96% of insurance companies.\(^\text{137}\) This means that many could be exempt from paying the full cost of the vaccine. Additionally, the healthcare system would reap the benefits of early vaccination. This study also proved that delaying vaccination would have a less significant impact on the reduction of cervical cancer cases. It was found that "...delaying initial vaccination until age 18 leads to only a 54.7% decrease in the number of cancer cases..."\(^\text{138}\) We should note that for those who are not insured, financing the vaccine remains a major point of contention, particularly if it is being mandated by the state.

There is more than ample evidence that a mandatory vaccination program in Texas, let alone the United States, could be beneficial. It has been found that vaccination of the current population of 12 year olds in the United States would lead to a drop in the number of cases related to HPV-16 and 18 from 9,147 to 422, a reduction of 95.4%.\(^\text{139}\)

Currently, the state is addressing high rates of infection by continuing their abstinence only education program and ensuring that the program provides information


\(^{138}\) Ibid, 1918

on the human papillomavirus and the vaccine. This means that attempts at reducing the burden of disease in the state are only as successful as the abstinence only education programs are. There is ample evidence that abstinence only education programs in schools are unsuccessful.\textsuperscript{140}

My intention is by no means to diminish local concerns or values; they are valid and they have worth. However, I am arguing for a way to decrease cervical cancer incidence. In this thesis I am arguing for sufficient action. As previously defined, sufficient action requires decreasing incidence rates by 70%, which can be achieved through mass vaccination. It should be noted that endorsing mass vaccination by no means endorses the behaviors that these communities are concerned about. Simply because one receives a vaccine that protects against one sexually transmitted virus does not imply that they will suddenly engage in sexual behavior. Finally, it is important that the reader keep in mind that if there were another mechanism that was capable of producing outcomes similar to vaccination, I would make an argument for that action. This action is not sufficient because it is vaccination. Vaccination is sufficient because currently it is the mechanism that provides the best outcomes.

\textbf{Texas and the Variables}

Wealth and resources, although privately owned, are readily available in Texas, and the United States’ government can also contribute. Therefore, we can further push aside the argument that wealth and resources are the silver bullet for successfully fighting a disease. The Texas case shows us just how important it is to have a political and social

environment that is open to addressing the impact of the disease. We can argue that the political and social environments are what is impeding sufficient action in the state of Texas.

On a national scale, cervical cancer is lacking a focusing event, and one could argue that this is why it has never been addressed on a national level. As we will see in the next chapter on Mexico, simply having high rates of infection can serve as a small-scale focusing event. Ironically, the problem in the United States is that overall there are very low rates of both infection and mortality, and therefore, it is not a priority. What is worse is that the population most affected in Texas is, more often than not, impoverished and marginalized. The majority of cases occur in the African American and Hispanic populations in the state. These people are underrepresented in the government and their voices are not heard. Additionally, while the state of Texas has a substantial amount of wealth, these aforementioned populations (because of their marginalized position) do not have access to it. When we are considering wealth (or resources), it is important to look at both aggregate wealth and the distribution of wealth.

The nature of the disease, its transmission, and treatments available were all spelled out in the previous chapter. However, it is important to note that with regards to Texas, the greatest delay in addressing the disease stems from the fact that we are confronting a disease that is sexually transmitted. Not only is it the result of sexual behavior, but it also concerns women's reproductive organs. The conservative political environment in the state, which promotes abstinence only education, makes it more difficult to endorse an action that could be associated with adolescent sex. A solution would be changing the age at which vaccination ought to occur (despite the fact that
mathematical modeling has shown us that 12 is the ideal age to begin vaccination). If the age were to be increased, then perhaps the state would not be caught in a position where they are being accused of hypocrisy. Adolescents would no longer be concerned. So long as people are associating vaccination with endorsing sexual behavior, the administration of this vaccine will continue to be a point of contention in Texas state politics.

The case of Texas illustrates a number of important things about the battle against cervical cancer in the context of the United States. First, it shows us that wealth and resources are not everything. Second, it shows us how difficult it is to act in an environment that is not accepting or willing to address the disease at all costs. Politics has been a major hindrance with regards to curbing the impact of cervical cancer in Texas. This can be attributed to the fact that the disease is sexually transmitted (and therefore controversial), and the fact that those most affected are not well represented. This case illustrates how important it is for each of the disease fighting variables to line up in favor of action. No matter how many are working in your favor, a couple working against are powerful enough to tip the scale in the direction of inaction.
Cervical Cancer in Context: Mexico

In the previous chapter, I recounted the impact that cervical cancer is having in Texas. Additionally, I discussed that way that the disease has been dealt with in the state, and then looked at cervical cancer in the state through the lens of the disease fighting variables. In this chapter, I will do the same with Mexico. Mexico will provide an interesting contrast for a number of reasons. First, it is one of the countries most affected by the disease, despite the fact that it implemented a national screening program in the mid 1970s. Secondly, as a middle-income country, it does not have sufficient resources to cover costs of the HPV vaccine, even though there is evidence that this would be the best solution. Finally, Mexico has not gotten caught up in the same politics and tensions that Texas is caught in. While Texas is concerned about how a mandatory vaccination law will look alongside their abstinence-only education program, Mexico is just trying to reduce mortality rates. In many ways the tensions that each country is facing in dealing with cervical cancer mirror each other, and therefore; analyzing the two together will provide insight.

In order to understand the way that cervical cancer is affecting the country of Mexico, it is first important to understand the changes that the Mexican national health care system has undergone in the last 30 to 40 years. Since the early 1970s, the Mexican government has been making changes to the healthcare system so that it could access a

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greater number of people, particularly those that are impoverished or in rural areas. One way the government of Mexico did this was by establishing a welfare agency (Secretaria de Salubridad e Asistencia, or SSA). The SSA has been working to improve healthcare access for those in rural areas of Mexico since the 1970s. As of the early 1990s, the SSA was responsible for approximately two-thirds of all Mexicans.\textsuperscript{142}

In the 1980s, the Mexican economy virtually collapsed. This was the result of a number of factors. Two components of significance were repaying debt to organizations such as the World Bank and IMF (International Monetary Fund) under their new structural adjustment policies, and the fact that Mexico was no longer able to compete with petroleum sales on a global scale.\textsuperscript{143} This collapse in their economy increased the gap between the wealthy and the poor, and exacerbated pre-existing health inequality. In the mid 1980s it was found that “...fully one-half of all rural Mexicans [had] never received any medical care in their lives, and one-fifth of the Mexican population [did] not have ‘easy access to health services.’”\textsuperscript{144} It would be simple at this point to attribute this failure to a systemic problem such as a shortage of doctors, but “…to the contrary, there are perhaps twenty thousand unemployed physicians in Mexico.”\textsuperscript{145}

In 1995, Mexico launched the Program for Health Sector Reform. The reform was centered around achieving four goals: “...to increase coverage; to promote quality and efficiency in the delivery process; to decentralize resources and responsibilities to states,

\textsuperscript{145} Ibid, 214
and to introduce initiatives and modifications for a more efficient operation of health care markets and other economic activities.\textsuperscript{146} One outcome of the reform was the establishment of the Sistema de Protección Social (SPSS). This organization "...introdujo nuevas reglas para el financiamiento tanto de los servicios de salud publica y los servicios de salud dirigidos a la comunidad, como de los servicios personales de salud."\textsuperscript{147} The funding for this particular branch comes primarily from taxation. Those receiving services put down a small payment that corresponds directly to their income, while the poorest 20% of the population are exempt. The SPSS afforded those previously uninsured with Seguro Popular. This insurance option provides social security benefits to inhabitants that do not have healthcare benefits. Seguro Popular provides subsidies for medical care and medicine.\textsuperscript{148} This reform has led to increased access to healthcare services, an increase in public investment in health, and improvements in "technical and interpersonal quality."\textsuperscript{149} The Mexican government hoped to achieve universal coverage by the year 2010.


"...Introducida nuevas reglas para el financiamiento tanto de los servicios de salud publica y los servicios dirigidos a la comunidad, como de los servicios personales de salud."


In Mexico, mortality and incidence of cervical cancer are extremely high. In fact, it is the country's leading cause of female cancer-related mortality. In 1992, the country had the highest mortality rates from cervical cancer in the world. In the year 2003, it was estimated that every 24 hours, 12 women die from cervical cancer, and that the number increases by 0.76% each year.

Poverty, "...including lack of formal education, unemployment, low socioeconomic level, rural residence and insufficient access to healthcare..." is closely linked to cervical cancer mortality in Mexico. The healthcare system is unable to adequately respond to this epidemic because of structural issues such as not having a sufficient number of cytotechnicians for screening. As of 1995, there were 417 technicians in Mexico. Of those 417, only 195, less than 50% were accredited.

Despite what the numbers indicate, Mexico has been responding to the impact of this disease since the mid 1970s. In 1974, the Programa Nacional de Detección Oportuna de Cáncer (PD0C) was established. However, "...a pesar de ello la tasa de mortalidad

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153 Ibid, 315


1995 was 16 years ago, and we can anticipate that these numbers have changed alongside the healthcare reform in the country. Unfortunately, more recent data on this is not available for the purpose of making a more timely comparison.
por CaCu [cáncer cervical] durante los últimos 25 años no ha disminuido, debido a la baja cobertura y bajos estándares de calidad."

It was estimated in 2003 that PDOC prevented less than 13% of the cases in Mexico. This failure to offer high rates of prevention can be attributed, partially, to the fact that the program only has sufficient infrastructure and resources to carry out approximately three million Pap tests a year for a population eight times that size.

A series of studies have been dedicated to the research and improvement of PDOC in Mexico. These studies are known as the Morelos studies because that is the state in Mexico where the research was conducted. The Morelos studies are meant to shed light on how to improve the entire country’s screening program. It was found that the factors inhibiting increased and improved access are:

(i) poor Pap smear quality; (ii) overall false negatives indices in reading centers on gynecological cytology; (iii) lower coverage in rural areas; (iv) knowledge of the utility of Pap test is lower in rural areas; (v) the presences of a man inhibits and embarrasses the women; (vi) the public services are perceived as impersonal; (vii) the women perceived cancer and death as synonymous, and between other

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"Despite this, the cervical cancer mortality rate during the last 25 years has not decreased due to low coverage and low standards of quality."


factors; (viii) in rural areas, many users did not seek testing because their sexual partner would not allow it.\(^{158}\)

Looking at the bright side of things, these are all issues that can be addressed, and the majority simply requires increasing awareness through education. Improvements in examinations can be achieved through improving training of cytologists, and encouraging continuing education.

In the late 1990s, after the findings from the Morelos study were analyzed, a program was implemented to improve the quality of the Pap samples. The program recommended the following actions:

a) standardizing the procedures followed at clinics that offer the Pap test; b) a guarantee that all necessary supplies would be made available; c) the use of new intake and medical history forms; d) a more efficient system for sending Pap slides to the lab; and e) the implementation of effective quality control mechanisms.\(^{159}\)

Another portion of the program was dedicated to increasing the number of women taking advantage of these services. This was done by asking physicians to remind their patients to be screened, this strategy alone led to a 150% increase in utilization of screening services.\(^{160}\) Reorganization of PDOC in the state of Morelos led to an increase in coverage from 22% to 72%.\(^{161}\)

\(^{158}\) Ibid, 246


\(^{160}\) Ibid, 338

\(^{161}\) Ibid, 338
Cervical cancer remains a major health threat to women in Mexico. It has been found by Insinga et al. that given the infrastructure available, the best options for Mexico would be to implement widespread vaccination against the human papillomavirus, all the while maintaining their national screening program. It has been estimated, through mathematical modeling, that “...the per capita incremental projected health benefits associated with each vaccination strategy, in terms of quality-adjusted life years gained, were estimated to be approximately twice as large for Mexico as for the United States.”162

The recommended strategy, other than further improvements in PDOC, is vaccination of 12-year-old females and males, and a temporary catch-up vaccination for those aged 12 to 24. This strategy would not only reduce the number of cervical cancer cases, but also reduce the cases of genital warts that result from HPV infection.163

However, as previously mentioned, Mexico is a country that is unable to fund the vaccine for so many people. Since it is a middle-income country, it is not eligible for any type of assistance in funding from organizations such as the GAVI alliance. The GAVI alliance (Global Alliance for Vaccines and Immunisation), is a major international source of funding. Currently, there are 57 GAVI eligible countries who’s Gross National Income

are below US$1,500. Each country has a different agreement with the organization.\textsuperscript{164} Unfortunately, Mexico cannot take advantage of this vaccine financing opportunity.

**Mexico and the Variables**

What becomes most evident in the case of Mexico is how important wealth and resources can be. Even when other factors seem to be working in their favor, if either wealth or resources are lacking, it can fail. Mexico has managed to put together a nation wide screening program despite the fact that they were lacking the necessary infrastructure, and that is more than can be said about the Texas case.

The political and social environment in Mexico is not one that hampers cervical cancer disease fighting. In fact, what we see is strong and consistent dedication to confronting the disease and the impact it is having on the country. Stigmas attached to the sexually transmitted nature of the disease are in no perceivable way slowing down progress or becoming a source of political debate. One can argue that because the disease has such a severe impact in Mexico, these more trivial debates are avoided.

The population affected consists mostly of impoverished women in rural areas. Normally, this type of marginalized population would not draw much attention to the disease. One can attribute the significant attention to the fact that the disease has become an epidemic amongst women in the country. A country simply cannot function as well with such high mortality rates and disability adjusted life years.

Mexico has such high infection and mortality rates from cervical cancer that this alone propelled them towards action. In that sense, Mexico has experienced a low-grade focusing event. This is a different type than what we have seen in previous chapters, particularly when one contrasts it to Rock Hudson’s AIDS diagnosis, but it is different from Texas. What we see in the case of Texas is that the rates are so low that the disease is unable to capture popular attention. However, Mexico could still benefit from a greater focusing event that may compel the government to fund widespread vaccination, for example.

With regards to variables such as nature of the disease, transmission, and treatments available, Texas and Mexico are confronting the same disease and therefore these remain constant. The key difference is that differences in wealth and resources lead to differences in treatments available. In Mexico, because it is a middle-income country, treatment options cannot be afforded to a large portion of the population. Additionally, due to its status as a middle-income country, Mexico is not eligible to receive funding for the financing of the HPV vaccine from organizations such as the GAVI alliance (Global Alliance for Vaccines and Immunisation). However, going through the GAVI alliance is not the only option for Mexico. Pharmaceutical companies often offer financing options as well. Unfortunately, we have yet to see the government take advantage of these opportunities.

In some ways, the case of cervical cancer in Mexico has been able to overcome significant barriers with regards to the disease fighting variables. While both population and focusing event are working against them in theory, in practice the two have been
turned around much to the benefit of disease fighting. This shows us that variables can be changed or manipulated in such a way to favor a countries disease fighting initiative. Mexico shows us what happens when there is political will but resources are limited. This provides a stark contrast to what we saw in Texas. We also see that the response to a failed program was not complacency and inaction, but continuing attempts to evaluate and improve the system. Despite their intentions and efforts, Mexico is an example of a failure to fight disease.
Conclusions

Cervical cancer is a preventable disease that is global in scope. It is a discriminatory disease that disproportionately affects already marginalized populations: women, minority population, and the impoverished. Those who have access to basic medical services are more likely to survive the disease than those who do not. In resource poor nations, cervical cancer is the second most common cancer in women. It is the fifth most common cancer in women worldwide. Every year it claims the lives of approximately 300,000 women, 80% of these in developing countries. Worldwide, a woman dies from cervical cancer every two minutes.\textsuperscript{165}

Cervical cancer is by no means a medical mystery. Interventions have been identified and evaluated, and the majority of these interventions (with the exception of vaccination and certain treatment options) are low in cost and do not require the presence of a doctor or specialist. Because of this these interventions are appropriate in both resource rich and resource poor settings.

With many diseases, there is a spectrum of actions that can be taken in order to address it. These actions will often vary depending on the social and economic contexts that one is operating in. It is rarely the case that one intervention for a disease would be effective in both resource rich and resource poor settings. In other words, disease fighting is typically not "one size fits all." However, with regards to having the most significant

impact (short of radical social transformations) cervical cancer does have a one size fits all solution: vaccination. Universal vaccination, for the sake of this thesis, is sufficient action. As we have seen, this is because vaccination is the most effective mechanism for prevention in both high and low resource settings that is currently available. Were there another intervention that was as effective, I would have endorsed that action.

In resource rich settings, mass vaccination would be effective for two reasons. Simply having resources, does not translate to all people having access to those resources. Mass vaccination has the potential to benefit marginalized populations within a resource rich nation. In the United States, for example, mass vaccination would be advantageous because the majority of women affected by this disease belong to a low socioeconomic class. Universal vaccination would also be advantageous in resource rich settings because it has the potential to lower costs that the healthcare system incurs as a result of unnecessary screening or follow up. The frequency at which women would have to go in for routine screening would decrease, and therefore the number of misdiagnosed women would as well. This would result in huge savings for the healthcare industry.

In resource poor settings, mass vaccination would have the potential to drastically lower the number of cervical cancer diagnoses and deaths. Vaccination at the appropriate age (before sexual debut) has the potential to eliminate infection by HPV types 16 and 18. These two HPV types are responsible for approximately 70% of cervical cancer cases. As evidenced by the Mexico case, many of these countries have screening programs that fail due to a lack of infrastructure. When infrastructure is so poor, and therefore screening is not as effective, vaccination is by far the best alternative.
Nonetheless vaccination is by no means 100% effective and is not capable of ridding the world of this disease. What is required for the elimination of cervical cancer is a combination of prevention, screening/early detection, and treatment. However, by virtue of the fact that the vaccine prevents 70% of cancer cases, it is an effective way to decrease the burden of disease. Encouraging abstinence is an alternative to introducing vaccination and could be highly effective in terms of reducing rates of infection. However, encouraging certain sexual behaviors has the potential to be complex, and can also be problematic. It would require massive changes in social behavior on a global scale, a nearly impossible feat.

The fact that cervical cancer is an easily preventable disease led me to pose the following question: if the solution is so obvious, why has universal vaccination as a means to reduce the burden of cervical cancer been not implemented? What is impeding sufficient action? I argue that there is a tension that is common to disease fighting. The tension is between our ostensible normative commitment to others and the inaction that persists. Cervical cancer’s high morbidity and mortality rates are a manifestation of this predicament that I refer to as a tension.

The first step in answering these questions was developing a disease fighting theory. My intention was to determine what exactly led to action with regards to disease fighting. In order to do so, I dedicated the second chapter to three other disease fighting movements with the intention of illuminating key factors in disease fighting, which I refer to as variables. More explicitly, I identified what variables have the potential to positively or negatively impact a disease fighting movement.
There were two main purposes to the second chapter. As was already mentioned, the first was to create a disease fighting theory. The second was to disprove the common belief that disease fighting is successful when either resources or wealth are readily available. The three histories that I chose to analyze were: venereal disease in the U.S. Army, the fight against breast cancer in the U.S., and the history of AIDS in the U.S.

The case of venereal disease in the U.S. Army is pertinent to our study of cervical cancer because it illustrates how difficult addressing sexually transmitted diseases has been. Not only because sex is generally considered a taboo topic, but also because the past and present social and political environment has not been conducive to addressing these issues in a productive way.

The case of breast cancer in the United States illustrates the fact that wealth and resources are not the silver bullet. Not being able to understand how a disease can be combated obviously hinders any progress, no matter how much funding goes into it. Additionally, the breast cancer case shows that political will alone can motivate us, but cannot cause action. This is manifested in the fact that progress has not been made in confronting the disease because the medical knowledge is not yet available. Finally, we see that having more than one factor working in favor of action, does not translate into action. All of the variables ought to line up in favor of action.

What we see in the AIDS narrative is that prejudice and bias significantly hinder action. Once again we are looking at a disease that is sexual in nature, but this time it is affecting a marginalized population (homosexuals) and the known primary means of transmission are a significant societal taboo (anal and oral intercourse, or intravenous drug use). Money and resources were in reach but the social and political environment of
the time made them unattainable. It was not until a popular and well-known celebrity was
diagnosed that the disease that the wheels began to move. As Jonathan Mann, the former
director of the Global Program on AIDS at the WHO said, “how society defines [the]
problem determines the manner by which we confront it.”166

The third chapter had two purposes. First, to distill and define the variables that
were influential in the three disease narratives presented in the second chapter. In total, I
gleamed seven variables from this analysis. The variables were wealth and resources,
fooling event, population, political and social environment, nature of the disease,
transmission, and treatments available. The second goal was to determine when the
variables motivate towards action and when they do not. In other words, I developed a
series of expectations for each one.

In order for sufficient action to occur, conditions must be favorable. In other
words, the variables must be working in favor of sufficient action.

- One either can or cannot have access to wealth and resources, but having wealth
  and resources is by far an advantage. We see in the case of AIDS, where the
  wealth and resources needed were not in the hands of those most affected, that not
  having access is a major barrier to sufficient action.

- A focusing event is simply an occurrence that draws attention to the disease.
  Whether this is Rock Hudson’s death from the AIDS virus, or the high mortality
  rate from cervical cancer in Mexico, both of these draw attention to the disease,
  and therefore motivate towards sufficient action.

Print.
• If the population affected is marginalized in any way, it will be far more difficult for the disease to become a mainstream concern. The case of venereal disease in the U.S. Army shows us that an intervention that caters to a population of interest is implemented quite rapidly.

• The political and social environment is highly important. A community that is understanding of the disease or supportive of the at-risk population will allow for more prompt and sufficient action.

• Viruses, bacteria, and cancers are all treated differently. This is not only because, biologically speaking, some are more difficult to treat than others, but also because of the way they are perceived in our day-to-day lives. A bacterium, because it can be easily treated, will be dealt with more quickly than a virus or a cancer.

• How was the disease acquired? We see in the case of AIDS, venereal disease, and even cervical cancer, that when a disease is sexually transmitted, it is more difficult to address, because it is perceived as unpopular or taboo.

• The case of breast cancer shows us that no matter how much political will, how much wealth, or how many resources are at our fingertips; a disease cannot be fought unless it is understood. In other words, if there are no treatments available and if there is no known prevention, the disease will persist as a problem.

As evidenced by the disease fighting narratives, no one variable is privileged over another. Disease fighting will not occur if only one variable is working in one’s favor. In fact, action does not necessarily occur when more than one is working in one’s favor. I have found that in order for action to occur, all seven should be in positive synergy with
one another. One example of this that I reference in the introduction is the case of Legionnaire's disease. That being said, the variables are by no means the holy grail of disease fighting theories. They are neither definitive, nor do they point to the solution. They are framework through which we can analyze disease fighting.

The fourth chapter was dedicated to the discussion of cervical cancer in particular. This chapter allowed us to fully understand how the cancer develops from a sexually transmitted disease, and spelled out all of the currently available prevention, screening and treatment techniques.

The fifth and sixth chapters allowed us to put the disease into context. This was a useful exercise for a number of reasons. First, comparing across differences illuminated commonalities and differences. Second, we saw how different social, economic and political environments have affected the fight against cervical cancer.

In Texas, state politics, and the conservative environment have slowed down any attempts at widespread vaccination. The concern is not how many women are dying from this disease in the state (even though TX has the second highest rate of infection in the country). One of the primary sources of inaction is that sexual health and well-being are seen as political issues in the United States.

In Mexico, a lack of wealth and resources is the major barrier to both vaccination and a successful national screening program. The government of Mexico has shown concern; this can be seen in the implementation of the national screening program. However, this has been unsuccessful because the state simply does not have the infrastructure to carry out a successful screening program. The best option for Mexico is
widespread vaccination, but the government cannot finance this. They need financial support, but because they are a middle-income country they are ineligible. While there are a number of options, some are closed off because Mexico is considered to be a middle-income country. As previously mentioned, the GAVI Alliance is not the only option that Mexico has, other organizations and even the pharmaceutical companies offer assistance as well. Nonetheless, wealth and resources remain a significant barrier in Mexico.

We can therefore conclude that these disease-fighting variables must be changed or manipulated so that sufficient action can occur. Either they need to become obsolete, a situation needs to be created where they are less important, or we need to privilege some variables over others. In the case of cervical cancer, the low cost of the intervention and our normative obligation to others should be sufficient.

Once the variables are changed, we will be able to change the rhetoric and generate a discussion. The questions will be: how can we address the impact that this disease is having? Is this disease treatable? Are their ways to prevent the disease? How can a public health intervention be planned? This would provide a pleasing contrast to the silence that we are hearing now.

Post Script: Looking Forward
The goal of this section is to look forward. At the end of the final chapter, we were left with a new question. How can we change or manipulate the disease-fighting variables so that they no longer inhibit sufficient action?

In this portion, my intention is to sketch out possibilities and offer up suggestions on how this tension could be overcome. Admittedly, none of the solutions offered in this portion are ideal. In fact, they are all difficult, if not impossible, to implement. However, simply engaging in this conversation is a step in the right direction. There are three solutions that I will focus on in this section. One is to reframe cervical cancer incidence as a human rights violation. The second solution is to propose the creation of a new international institution that could address the problem on a global scale. Finally, I will consider the creation of a focusing event that draws attention to cervical cancer as a global health issue.

The first solution discussed here is the framing of high incidence and mortality rates from cervical cancer as a human rights violation. This framework may make it possible for these obstacles to be overcome.

There are three main steps to the argument for endorsing the notion that cervical cancer can be read as a human rights issue. The first step is that the human right to health already exists and is widely accepted. It is not only guaranteed in Article 12 of the International Covenant on Economic, Social and Cultural Rights, but it is also expanded upon in General Comment 14 from the Committee on Economic, Social and Cultural Rights. The second step is that a human right can function as a motivator because it implies universality. If I believe that you and I are equal, despite the fact that I am from
the United States and you are from Mexico, then I am more likely to fight for your rights. Appealing to the humanity in us will encourage us to see one another as equals. In short, human rights allow us to transcend national boundaries. This framework can motivate us to overcome other obstacles in the variables. Universality will help us overcome issues that stem from social or political environment, population affected, and focusing event. It would no longer matter who was concerned or how people perceived them. By virtue of the fact that humans were concerned, a preventable disease that kills approximately 300,000 women every year would be seen as an important issue for the global community. The third step pertains particularly to the field of public health. This field is the most useful tool in battling health inequity on a global scale. Unfortunately academics in the field have a tendency to focus too much on improving the numbers and doing what is economically efficient. Public health needs to take on a human rights approach. As is, this emphasis on numbers is an obstacle to political action because an intervention that is not advantageous (either financially or in terms of the size of the population concerned) will not be encouraged. One author, Freedman, who believes that the power behind human rights stems from the fact that they affirm the fundamental values of human agency, has voiced this same argument.\textsuperscript{167}

It has been widely acknowledged that human rights, because they are morally based and can be applied universally, are of a higher order than national laws.\textsuperscript{168} This concept of a higher order comes from moral law theory, which states that law that is based in nature is universal. Additionally, by virtue of their universality human rights


ought to be upheld by all people. Unfortunately, there are few legal sanctions in place that would obligate individuals to uphold human rights. As of now, the strongest forces are other states, non-governmental organizations, and the media.\textsuperscript{169}

As a result of these claims, a sentiment of frustration permeates a significant portion of the literature that focuses on the legal aspects of human rights:

“...socioeconomic rights, even as basic rights, are destined to remain mere aspirations at best.”\textsuperscript{170} The way that people perceive human rights needs to be shifted, all rights ought to be accorded equal protection and importance because, “all human rights are universal, indivisible and interdependent, and interrelated.”\textsuperscript{171} Simply because, thus far, this approach has proven unsatisfactory does not imply that this solution does not have motivating potential.

Applying a human rights framework to the fight against cervical cancer would lead to sufficient action in multiple ways. First, framing cervical cancer incidence as a human rights violation would draw international attention and may function as the focusing event that the disease needs. Second, because human rights imply accountability, victims of the disease would be able to appeal for support in their fight against the disease. Being able to hold someone or something accountable for their well-being would mean that those who do not personally have the resources to fight the disease could seek support elsewhere.


Another possible solution would be the creation of an international body whose responsibility would be to address issues of global health.

Despite its problematic nature, a number of authors have supported this argument and suggested that the creation of an international institution to address issues of health would be an effective solution. One such author, Tony Evans, argues that this is appropriate because we are living in an increasingly interconnected world. In other words, globalization justifies this solution. Currently it is assumed that the responsibility for public health lies with the state. If strong international organizations were created, the responsibility would then fall on the global order.\textsuperscript{172} Making the responsibility global would, undoubtedly, increase and improve global health, particularly in resource poor countries.

This international institution would need coercive power. Somehow, this organization would need to overcome any social, political or economic barriers that would stand in the way of disease fighting via enforcement:

... If the state cannot deliver...there [is] a need to promote and protect socio-economic rights by designing and creating new institutions where rights as ‘trumps’, trump economic interests.\textsuperscript{173}

Rights, not economic interests would govern the way that this international organization would act. This kind of global institution would need to have certain characteristics. One such characteristic would be an ability to gather resources. An organization of this nature would also require the capacity to eliminate the wealth and resources barrier. In the case of Mexico, this organization would be able to finance mass vaccination. Also, this


\textsuperscript{173} Ibid, 21
organization would have the power or authority to implement a public health intervention given that there is proof that it is worthwhile and important. If universal vaccination was needed, and it has been proven that this would be beneficial to the population in question, this body would be able to enforce it. Finally, another capacity this organization would need is the ability to negotiate with pharmaceutical companies in order to make medical technologies more readily available on a global scale. How this hypothetical international organization would go about doing all of these things is yet another con of this solution. Creating an institution that could do all of these things would be complex because there is no precedent.

This genre of solution, while often popular, is deeply problematic. First of all, there are issues of sovereignty at play. What is being assumed is that countries are going to be willing to yield a degree of sovereignty and have an international body govern certain aspects of their citizen's lives. This is by no means a pragmatic expectation. In fact, this is a very authoritarian solution to the problem. A potential way to circumvent this is for this international organization to have regional or national branches in order to gain more support.

Some may ask, are NGOs (Non-Governmental Organizations) and national institutions not sufficient? In my opinion, and that of some scholars these are not adequate. Not only is it unsustainable for an NGO to assume responsibilities that the government should have, but an NGO working in the place of the government is also encroaching on state sovereignty. In fact, any solution of this genre whether working through a regional body or an NGO would intervene with state sovereignty.
One may also ask how this differs from any pre-existing international organization such as the World Health Organization or the United Nations. The key difference would be the coercive power that this institution would have.

The final potential solution discussed here is the creation of a global focusing event. There are a number of ways through which one can draw attention to cervical cancer on a global scale. As seen in the case of AIDS he power of celebrity can be harnessed to draw attention. While one would be hard pressed to find a major celebrity with cervical cancer (they would most likely have access to early diagnosis and preventative treatments) there are other ways celebrity can used to draw attention. Bono’s work raising money to combat AIDS in Africa is an example. His concerts raise both money and awareness and have proven to be quite successful. However, it should be noted that Bono’s exclusive focus on Africa means that his project is not necessarily one that can be mimicked globally. Another option would be to create something similar to the AIDS quilt, but for cervical cancer. These kinds of visual projects are powerful and can compel individuals to become involved in the fight against cervical cancer. In short, this solution also motivates towards action. Raising awareness can lead to an increase in activity.

One disadvantage to this solution is that cervical cancer disproportionately affects women in resource poor nations. It would be difficult to make those in Western Europe and North America concerned about a disease that they have little exposure to. It would most likely turn out similarly to any campaign that is meant to raise awareness on, for example, tropical diseases in resource poor nations. Because one cannot picture it, or
understand it, it is easy to separate oneself and not feel a sense of obligation.

Unfortunately, this solution suffers from the fact that cervical cancer incidence and mortality are unevenly distributed. The major concern in the U.S. and Europe is the amount of money wasted in the healthcare system due to this disease. Any type of benefit concert that concerns itself with this would most likely fail.

Another concern would be the potential exploitation of those affected by the disease. Presenting any types of images or works by those affected has the potential to negatively impact the very population that one hopes to help. These types of projects can change the way that the population concerned is perceived. They could be seen as the hopeless victim, when they themselves see one another as strong and capable. Also, organizations that attempt to raise money or support for these groups are not always doing so benevolently. Some organizations have been known to extract steep profits from donations they receive. These are just two examples of how both ethically and morally speaking, these types of projects can be contentious.

Finally, it is difficult for a focusing event to be global in scope. Creating something (whether it is a project or a performance) that appeals to all audiences is not an easy task.

These provisional suggestions are being presented with the intention of continuing the conversation. At this point, we can merely gesture to possible solutions. Simply acknowledging that these disease-fighting variables intervene will not help move us towards action. Presenting options shows us that this is not a zero-sum game, or a
problem without a solution. The question we must ask ourselves is by what means can we shift the paradigm?

I would like to note that the solutions presented in this chapter are all more appropriately suited for a case like Mexico. In Texas, and any other resource rich nation, a different approach would have to be taken. One such approach would be an education campaign to raise awareness of both HPV and cervical cancer. It is through education that there is potential for people to understand how useful screening and vaccination can be in eliminating cervical cancer.

This discussion has been centered on combating cervical cancer, and the goal was to determine why easy actions were not being pursued. Cervical cancer could parallel many other diseases in that regard. It is difficult to state how much one can or cannot generalize from this study; however, it can be said that the variables are important factors in disease fighting.

It cannot be argued that this theory on cervical cancer informs the way that all other health interventions ought to be viewed, however, one can draw upon the discussion of the variables. As mentioned, each disease fighting intervention must be catered to the make-up of the disease and the setting where one wants the intervention to occur. However, all of the concerns raised are pertinent when looking at other diseases. The variables are not obsolete, and they can help inform whether or not a disease will be met with action or inaction. Our next task in this project is to overcome these variables and continue this conversation.
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"What You Need To Know About™ Cervical Cancer - National Cancer Institute."


Appendix A: Diagrams on Cervical Cancer

The Cervix within the Female Reproductive System:

Found at: [http://www.venusappeal.org/Symptoms/WombCancer](http://www.venusappeal.org/Symptoms/WombCancer)
Evolution from HPV Infection to Cervical Cancer:

Flow chart created by author: Rachel Tayler
Stages of Infection by Papillomavirus:

- Virion Assembly
- Vegetative DNA Replication
- Capsid Protein Expression

HPV Infection in the Cervix:


Found at: http://www.nature.com/nrc/journal/v7/n1/fig_tab/nrc2050_F1.html
Life Cycle of HPV:

Fig. 7.3 from Wright, T.C., Kurman, R.J., and Ferenczy, A., in Blaustein's Pathology of the Female Genital Tract, Kurman, E., Ed., Springer, New York, 1994, 229. © Springer-Verlag.
Natural History of HPV Infections:

HPV 6, 11, 31
- microlesion → clinically unapparent early papilloma → koilocytic papilloma

HPV 16, 18
- microlesion → early Bowenoid lesion → Bowenoid papulosis, CIS