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An Analysis of the Factors that Contribute to High HIV Rates in the
Southern United States

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Intro:

Thoughts of the Southern region of the United States bring to mind country music, BBQ food and sandy beaches. Yet there is an aspect to the South that is not so obvious; something that is hidden in plain sight. That something is HIV. While the AIDS crisis began in Los Angeles and New York, the highest concentrations of HIV/AIDS cases are located south of the Ohio River. For the purpose of this research, the southern region will be defined by the Center For Disease Control's definition of the South which includes seventeen states: Alabama, Arkansas, Delaware, the District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

To put this issue in perspective, in 2014 there were 37,600 new cases of HIV in the United States and half of those cases were in the Southern region. The rate of HIV diagnosis in the South is 16.8 per every 100,000 people. The region with the second highest rate of HIV diagnosis is the Northeast with a rate that is almost five points lower than the South at 11.2 per every 100,000 people. Furthermore, of the top ten states with the highest rates of HIV, eight are located in the South with Georgia having the highest rate of HIV diagnosis overall at 31.8 per every 100,000 people. In fact, in 2014, 45 % of all people living with HIV in the United States lived in the South and 53% of the people who died from HIV were located in the South ("HIV in the United States by Geography").

There is no one reason to explain why the Southern region of the United States has such a high rate of HIV diagnoses. Instead there is an overlap of many different factors that contribute to a lack of empathy surrounding the disease. This lack of empathy

lives in combination with high poverty rates and negative stigmas surrounding HIV that dissuades people at risk from getting tested for the disease. This avoidance prolongs the gap between infection and treatment and gives time for HIV to develop into AIDS or for the disease to spread. In order to truly understand the HIV rates in the South, we must first understand HIV from the beginning.

Background:

Human immunodeficiency virus, commonly known as HIV, is discussed in almost every biology class as the textbook example of a retrovirus. A retrovirus is a non-living, infectious agent composed of a single RNA strand inside a hexagon shaped protein capsid. The host cell of choice for HIV retroviruses are adaptive immune cells called T-cells. T-cells are white blood cells that work with B-cells, another adaptive immune cell, to attack foreign agents in the body. HIV specifically targets CD4 T-cells, which are called “helper T-cells” because they assist B-cells in generating antibodies (Zhu, 1557). HIV is particularly devastating because it attacks CD4 T-cells to almost nonexistent levels in the body.

To attach to the host cell, a retrovirus must first bind to receptors located on the host cell membrane. The retrovirus will then fuse to the host cell envelope, allowing the viral RNA to enter the cell (Burnie). Reverse transcriptase, found within the virus, is then used to transcribe the viral RNA to DNA that can be integrated into the host cell DNA. In normal cell division, DNA is transcribed to RNA, but retroviruses perform this process in reverse. The newly transcribed viral DNA is used to synthesize new retroviruses in the host cell, effectively spreading HIV throughout the body (Bauman, 392). Without CD4 T-cells, a person with HIV becomes susceptible to secondary infections. Most people that

die from HIV die from these secondary infections such as *Pneumocystis carinii pneumonia*, a fungus that invades the lungs (“HIV: The Basics,” 5-6).

There are many misconceptions surrounding HIV. The first is that HIV and AIDS, or acquired immune deficiency syndrome, are interchangeable phrases. This is not necessarily true as HIV is the virus that leads to AIDS. An HIV infection is thought of as a spectrum based on the number of CD4 T- cells a person has in their body. When a person’s CD4 T-cell count drops below 200, a person is diagnosed with AIDS. Another misconception is the way in which HIV can be spread. HIV is spread through anal, vaginal, and oral sex; through blood, blood transfusions, and needle sharing; and from mother to child during birth. However, HIV is not spread from hugging, touching items a person with HIV has touched, participating in sports, sweat, tears, or closed-mouth kissing (HIV/AIDS).

A History of HIV:

The misconceptions surrounding HIV/AIDS stem from the disease’s troubled history. It is commonly cited that the beginning of the AIDS epidemic in the United States was on June 5, 1981 when the Center for Disease Control (CDC) reported on five cases of *Pneumocystis carinii pneumonia* in men without any previous health concerns. All of the men were living in Los Angeles, California and were homosexual. The later fact will make more of an impact than anyone could have predicted (“A Timeline of HIV and AIDS”).

People and animals were infected with HIV long before the CDC sent out its infamous report. HIV, the version of the virus that attacks humans, evolved from SIV, or simian immunodeficiency virus, which remains in several species of monkeys in West

Africa today (Williams and Burdo, 2). The “Cut Hunter” theory is used to explain how SIV was transmitted from monkeys to humans eventually leading to the evolution to HIV. The theory proposes that around 1908 a hunter living in Cameroon near the Sangha River, cut his hand while butchering a monkey allowing for transmission of SIV from the monkey’s blood to the hunter. This hunter most likely only spread the disease to one other person through sexual contact. From there, SIV had time to mutate to HIV, specifically HIV-1, Group M, Subtype B, which is the strain of HIV that infects over 35 million people today (Lynch, “HIV/AIDS”).

From the 1920s to the 1950s, West Africa was infiltrated by a number of tropical diseases and it was not uncommon for a person to die at a young age. For this reason, symptoms of immune deficiency were not apparent and HIV had time to spread undetected. One tropical disease that was being actively treated was trypanosomiasis, commonly known as African sleeping sickness, which uses tsetse flies as a vector. The treatments for this parasitic disease involved up to thirty-six injections over a few year span. However, in West Africa, one-use needles were not affordable, so needles were being reused hundreds of times. Once one needle was used on a person infected with HIV, the virus had the opportunity to spread to hundreds of other people. These people could then further spread the disease via sexual contact and by 1960, a huge population of West Africans would be infected (Lynch).

Until the mid-1960s, West African was the only location where HIV had taken hold. However, political unrest in the Congo caused a shortage of Congolese doctors, so Haitian doctors who were seeking refuge from their countries own political turmoil filled the gap. While in West Africa, one of these Haitian doctors became infected with HIV

and took the disease back to Haiti. In Haiti, a clinic opened in the early 1970s that offered \$3 per liter for blood plasma donations. Similar to the clinics in West Africa, needles were being reused with each plasma donation, spreading HIV to the next donor and also infecting bags of plasma. Blood samples collected in 1982 reveal that 7.8 percent of women living in the capital city of Haiti, Port-au-Prince, were already infected with HIV (Lynch).

The way in which HIV got from Haiti to the United States is still a contested question. Some people believe HIV was carried in a frozen bag of plasma and given to an unsuspecting recipient (Lynch). Others suggest that HIV spread to the United States via sexual contact between Americans and Haitians. Port-au-Prince was a popular vacation destination because travelers could purchase sex easily and at this time Haiti had a relatively stable government. Today, Port-au-Prince is thought to be the “key interchange” between HIV in Africa and the United States (Engle, 50-51). No one knows for sure who first brought HIV into the United States. This means no one knows for sure whom the identity of “Patient Zero” belongs too. However, this did not stop a nation frightened by the prospect of a new incurable disease from finding a scapegoat for their fears.

Gaëtan Dugas was that scapegoat. Dugas was a French-Canadian flight attendant living in Los Angeles who was dubbed “Patient Zero” after *The American Journal of Medicine* published an article in 1984 stating that one man, labeled with the number 0, had sex with four of the nineteen men in Los Angeles who were first diagnosed with severe immune deficiency in 1982 (Auerbach, et. al, 489). Armed with this information, Randy Shilts, the author of *And The Band Played On*, named Dugas as Patient Zero and

referred to him as “the first person in the United States to be diagnosed with AIDS,” even though this fact was not confirmed by any previous sources (Shilts, 83). Shilts made Dugas out to be a criminal. He described him as a man out for vengeance, infecting as many people as he could before he died.

Dugas held the label “Patient Zero” until a study published in 2016 in *Nature* cleared his name. Michael Worobey and his team tested the DNA provided in the same 1984 *American Journal of Medicine* study and found that not only could Dugas not be the starting point of AIDS in the United States, but that HIV most likely arrived in New York City and spread West from there (Worobey et. al, 100). Dugas was located in Los Angeles at the time, not New York. Furthermore, Worobey discovered that the phrase, “Patient Zero” was intended to be “Patient O” meaning “Outside Los Angeles.” Since the initial cases of HIV were reported by the CDC were all located in Los Angeles, the labeling of cases was made based on where the infected person lived within the city. Gaëtan Dugas was from Canada so he was given the label “O,” however when the 1984 study was published, a typo was made and the “O” became a zero, causing Dugas to be given the label as the first person to bring HIV to the United States (Worobey et. al, 99).

The early history of HIV is important because it explains why HIV today is shrouded in stigma. The disease was first seen in the gay community, a community who had spent more than a decade before the AIDS crisis trying to gain rights from the conservative majority that ran the country. Placing the blame on Dugas - a gay man who was expressing his sexual freedoms, something the heterosexual community has been doing for centuries- for bringing HIV into the United States is an analogy for the bigger issue of associating HIV solely with homosexuality. Furthermore, initial media reports

that labeled HIV as GRID or gay-related immune deficiency and “gay cancer,” reflected the assumption that HIV was a disease only contracted by gay men (Herek, 1). This furthered the idea that gay men were somehow less biologically fit than their heterosexual counterparts and that HIV was a result of gay men partaking in unnatural acts.

It was not long after the term AIDS was coined that the CDC identified four groups of people at “high-risk” for contracting HIV called the “4-H Club” because it was composed of homosexuals, hemophiliacs, heroin addicts, and Haitians. Associating HIV with specific groups of people not only further stigmatized groups who were already highly discriminated against, but it made HIV taboo from the beginning of the crisis. Since nearly the moment the CDC reported on the first cases of *Pneumocystis carinii pneumonia* in 1981, HIV has been unfairly targeted as a disease for criminals.

Conservative groups even brainstormed various ways to separate people living with HIV from people without the virus, including quarantine. Another suggestion was mandating every person living with HIV receive a tattoo announcing their status, so they became walking billboards for HIV (Herek, 2). Gaëtan Dugas died from complications of AIDS with the whole world believing he was the father of HIV in the United States. The blame of HIV moved from Dugas to the LGBTQ community, to intravenous drug users, and to African American men who have sex with men (MSM). The stigma surrounding HIV has not gone away, it still affects the way people think about the disease, especially in the Southern United States.

Homophobia in the South

While HIV affects every race, class, and sexual orientation, it is still most prevalent in the homosexual community. In 2014, the CDC estimated that 2% of the population in the United States identified as gay or bisexual, but gay or bisexual men make up 70% of new HIV infections (“HIV Among Gay and Bisexual Men”). Also in 2014, roughly 14,500 MSM were diagnosed with HIV, with African American MSM being the highest group affected (“HIV in the Southern United States”). Jackson, Mississippi has the nation’s highest rate of gay and bisexual men living with HIV, at 40%. In second place is Columbia, South Carolina followed by El Paso, Texas, Augusta, Georgia, and Baton Rouge, Louisiana, all cities located in the South (Villarosa).

The Southern region has the largest population of LGBT people in the United States at 35%. The next highest region is the Midwest at 20% (“LGBT in the South”). A large concentration of homosexual men in one area can cause the spread of HIV within the community, however that fact alone does not explain the high rate of HIV in the South. A large contributor to the prevalence of HIV in the homosexual population is the multifaceted discrimination that the LGBT community faces, which limits access to HIV tests and treatments.

The South is not always a friendly place to LGBT people. *The Rolling Stone* reported a list of the five worst states for LGBT people and four of the five states were in the South: Louisiana, Alabama, Texas, and Mississippi rolling in at number one on the list (Lang). The Southern region of the United States has the fewest anti-discrimination laws based on sexual orientation and gender identity in the country. When it comes to discrimination in housing, only three out of the seventeen southern states - Delaware,

Maryland, and the District of Columbia – have laws that prevent people from being discriminated against when buying or renting a home because of their sexual orientation or gender identity. Only six of the seventeen southern states have similar laws protecting against discrimination in the work place and only three states in this region protect individuals from being harassed or discriminated against in a private business or government entity because of their sexual orientation (“State Maps of Laws and Policies”). Furthermore, there are no explicit laws that protect an individual from discrimination based on sexual orientation at the federal level (Lorenz). Georgia does not have a single state law that protects against discrimination based on sexual orientation or gender identity and since there are no protections at the federal level, an LGBT person living there has zero laws to protect them against being attacked for who they are (“State Maps of Laws and Policies”).

Due to the lack of laws protecting LGBT people in the South, it can be hard for a person who does not fall into a heteronormative box to find work, education, or comfortable housing. According to a survey released by transgender advocates in 2011, called “Injustice at Every Turn” which surveyed over 6,500 transgender individuals in the United States, people who identify as being transgender are four times as likely to live under the poverty line than non-transgender individuals. Transgender people also have twice the unemployment rate than non-transgender people. The report points to widespread discrimination as a leading factor in these economic discrepancies. When these strains are put on a person, it is harder to make money for basic needs, which can lead a person to survival sex work. In the same 2011 survey, HIV rates among transgender individuals who engaged in survival sex work was 15% higher than

individuals who did not engage in survival sex work at any point in their lives (McLemore, 9).

Furthermore, without a job, an LGBT person may not be able to afford to get health insurance preventing them from going to the doctor for regular check-ups. As a result, a gay man living in the South who is already at increased risk for contracting HIV may not have an opportunity to get tested for HIV, discuss his potential risks, receive preventative drugs such as PReP, or receive treatment for HIV if that is something he needs. Discrimination in the work place and housing does not just prevent a LGBT person from making money or living in a nice area, but it prevents an LGBT person from being able to live a comfortable, healthy life, and it ultimately contributes to the spread of HIV.

LGBT people in the South are also under constant threat of violence because of their sexual orientation. Hate crimes in the United States have increased for two consecutive years and 1 in 6 of those victimized were targeted because of their sexual orientation (Berman). This violence climaxed in the tragic shooting at the Pulse nightclub in Orlando, Florida in which 49 people died and 58 were wounded. A direct attack on the LGBT community, the Pulse shooting was reminder that homophobia in the South is very real and very dangerous. While the shooter, Omar Mateen's motive is still in dispute, his family has been cited saying he had frequent outbursts against LGBT people and got angry when he saw two men displaying signs of affection in public (Wilber). Frequent violent acts against LGBT individuals not only make it difficult for a person to live openly in their community, but it makes it dangerous for them to do so.

One of the most overlooked issues stemming from anti-gay sentiment is internalized homophobia. Internalized homophobia is when a person who identifies as gay or lesbian involuntarily believes that the stereotypes and stigmas they face because of their sexual orientation are true and as a result turn these negative ideals inward. This internalized homophobia has been linked to low self-esteem and depression among gay men and women, which can lead to an increase in HIV risk behaviors. One study has shown that men affected by internalized homosexuality are more likely to use drugs as a coping mechanism in order to avoid the negative thoughts they have about their sexual orientation. Intravenous drug use is associated with an increase risk of contracting HIV and increased risk of falling below the poverty line. Furthermore, internalized homophobia causes a person to feel undervalued with a sense that they are expendable. These feelings lead to men partaking in unprotected sex and short sexual experiences, with multiple different partners instead of long-term monogamous relationships. The study states that, “taken together, the internalization of negative views toward one’s sexuality can contribute to the development of less secure inter- personal attachments, social isolation, avoidance of gay venues and resources, and increased sexual impulsivity and risk,” (Johnson, 830). Additionally, internalized homophobia has been shown to prevent a person from wanting to identify as gay. This denial of one’s identity has been associated with an avoidance of places traditionally attributed to homosexuality, such as HIV testing centers. The combination of increased HIV risk behavior and a dissuasion for seeking HIV testing and counseling due to internalized homophobia can lead to delayed diagnosis, which increases the chances of a person spreading HIV or developing AIDS (Johnson, 831).

Religion and HIV:

A contributor to homophobia and HIV stigma in the South is a culture heavily rooted in Christian beliefs. When the AIDS crisis began, some church leaders were quick to use rhetoric that implied HIV was a “curse from God” because the disease was first seen in gay men, a group already deemed as sinners. Long before anyone knew about AIDS, so-called “sexual immorality” and homosexuality had been seen as a threat to our pious communities. When the AIDS epidemic began, fear spread through the country and the idea that homosexuality was a sin became heightened by the media and televised evangelicals. In 1993, one such evangelical, Billy Graham, asked the rhetorical question, “Is AIDS a judgment of God?” to which he responded, “I could not say for sure, but I think so.” While not every religious person in the country believed this anti-gay, anti-HIV speech, its presence in American society heightened the stigma surrounding HIV and homosexuality (Barlow). Instead of spending time and resources to help those in need, many churches turned their backs on people diagnosed with HIV.

Sunday church is often a centerpiece of a Southerner’s week. The Pew Research Center found that 76% of adults in the South are of Christian faith (“Religious Landscape Study”). While not all Southern Christian’s believe that homosexuality is a sin, one denomination, the Southern Baptist Convention (SBC), has discriminated against gay and lesbian people for decades. This denomination is the largest Protestant denomination in the South with over 16 million members. Some key goals of the SBC are to dismantle gay-straight alliances in schools, prevent legislation that bans discrimination based on sexual orientation in the workplace, and overturn same-sex marriage (“Stances of Faiths on LGBTQ Issues: Southern Baptist Convention”).

Since religious organizations like the SBC play such a large role in Southern culture and they have such an expansive member base, it is easy to see how negative ideas about homosexuality and HIV can be harmful. A study out of Baton Rouge, Louisiana found that areas with strong traditional religious beliefs about morality have a pronounced impact on a person living with HIV's medication adherence rate. It was shown that negative religious beliefs about HIV had a negative effect on adherence and a positive religious belief about HIV had a positive effect on HIV adherence (Parsons, 106-107). Whether or not a person living in a densely religious area, such as many areas of the South, believes that HIV is a punishment or not they can still be affected by the stigmas associated by traditional religious doctrine.

Christian ideologies also influence the style of sex education that is prevalent in the South. Pre-marital sex is considered a sin in most Christian religious denomination. This causes some followers to believe that students should be taught to abstain from sex until they are married. Almost every state in the South stresses abstinence education over a comprehensive sex education in high schools. Five southern states - Florida, Louisiana, Mississippi, Texas, and Virginia - stress abstinence education, but do not mandate HIV education. This means that students in these states will almost certainly learn that sex before marriage is wrong, but they will not learn about HIV or ways to prevent the disease. Shockingly, out of every Southern state, only North Carolina has laws that require sex education curriculum to be medically accurate ("Sex and HIV Education"). Outside of North Carolina it is perfectly legal to teach students incorrect information about HIV, which may affect their understanding of the disease and ultimately put them at higher risk for contracting HIV.

Studies have shown that teens that receive abstinence-only education are 30% less likely to use contraceptive devices when they become sexually active. Since abstinence-only education stresses that students should avoid sex all together, students are not learning safe sex practices, such as condom use. Aside from taking PReP, correct condom use is the most effective way to prevent the spread of HIV, yet students are not learning how to effectively utilize this resource. Teens are graduating high school without any knowledge of STIs or how to get tested. Students with abstinence only education are also less likely to seek medical testing and treatment for STIs, most likely because they believe they are not at risk for contracting these infections (“Abstinence-Only-Until-Marriage Programs”). Avoiding discussion about HIV and other STIs creates an “us vs. them” mentality in which students truly believe that they cannot or will not contract HIV. In The Supplement to HIV/AIDS Surveillance Project survey of 956 people living in the South with HIV, respondents were asked whether they believed they were capable of being infected with HIV before receiving their diagnosis. 65% of female respondents and 52% of male respondents reported believing they could not become infected, while most commonly citing a lack of HIV knowledge as the reasoning for their belief (“Risks for HIV Infection Among Persons Residing in Rural Areas and Small Cities”). Instead of teaching teens about HIV, abstinence-only are putting them at higher risk to develop HIV in the future.

Health Care and HIV:

Unfortunately anti-LGBT bias does not stop when a person enters a doctor’s office. Malpractice is common because of a persisting ignorance to LGBT health issues in medical institutions. Less than half of the medical schools in the country teach students

about LGBT specific issues (Konnoth). The CDC also reported that only 34% of primary care doctors have even heard of PReP, a drug that can prevent the transmission of HIV if taken consistently (“Daily Pill Can Prevent HIV”). Medical professionals are not equipped to help with the issues pertaining to the LGBT community in the South. Even more disheartening is the lack of trust LGBT people, especially LGBT youth, feel towards their medical professional. In a Kaiser Foundation survey of gay men from 2014, 15% of respondents said that they have received poor treatment from a medical professional because of their sexual orientation. Another 30% of respondents did not even feel comfortable discussing their sexual behaviors with their doctor (Hamel et.al). These statistics come from experiences like one reported out of Orlando shortly after the Pulse Night Club Shooting about a gay man who went to his doctor with symptoms that could be explained by a number of causes. However, this man’s doctor would only check for HIV. The doctor ran HIV test after HIV, all of which were negative. It was not until this patient went to another doctor did he find out his ailment was hypothyroidism, not HIV. This man’s doctor wasted his patient’s time and money because of his preconceived idea that all sick, gay men must have HIV (Konnoth).

Stories like this one are not uncommon. Medical professionals can be ignorant about HIV, who is at risk, the associated symptoms, and the preventative treatment options available. This is partially due to the systemic oversight of LGBT issues in education that stems from a pervasive thought that LGBT people are not as important. However, the discrimination is also due to the idea that HIV and homosexuality are linked. If a sick person reveals that they are gay then it is first assumed they have HIV. However, this is not a steadfast rule and these thoughts are preventing patients from receiving the health

care they need. Experiences like the one in Orlando dissuade gay men from going to the doctor to avoid the discrimination and assumptions. This is where the biggest issue arises because if a person does not feel safe going to the doctor they are not getting tested for HIV, but also not receiving any type of health care.

Economic Factors:

Since the beginning of the AIDS epidemic in 1981 until 2010, the amount of funding provided by the United States government to HIV related programs had increased annually. However, after 2010 the amount of funding provided to HIV activities has been on a downward trajectory (Rosenberg). In 2018, the CDC's budget request included a \$186.1 million dollar cut to the HIV/AIDS, Viral Hepatitis, Sexually Transmitted Infections and Tuberculosis division ("Overview of the CDC FY 2018 Budget Request"). Furthermore, the Ryan White Care Program - a program that targets people living with HIV that do not have significant financial resources- has been flat funded since 2009 ("The Ryan White HIV/AIDS Program"). President Donald Trump also signed a bill that allows states to withhold federal money from organizations that provide abortion services, mainly Planned Parenthood, which is a large provider of HIV testing and counseling in the South (Merica). These statistics are concerning because the number of people being diagnosed with HIV is increasing every year, yet funding for HIV services is decreasing.

Statistics on a regional level are no better for people living with HIV in the South. In 2015, The Texas Department of State Health Services stopped funding for the Texas Planned Parenthood HIV-prevention program. The same year, 107,188 people in Texas relied on The Ryan White HIV/AIDS program, meaning they had no insurance coverage

other than under Ryan White and could have benefited from the free services provided by the Planned Parenthood HIV program (“HIV and Ryan White: Texas”). (Texas actually has the highest proportion of people living without health insurance at 18.8%. The next three states with the highest insured population are also located in the South – Oklahoma, Georgia, and Florida (“HIV in the Southern United States”)) The cut was meant as an attack on the organization after videos were released that supposedly showed Planned Parenthood affiliates selling fetal tissue. The videos were later proven to be fake, proving that government officials will use whoever they can, even people living with HIV, to score political points (Ahmed).

Additionally, the states with the highest number of people living with HIV per 100,000 people, such as Georgia, Louisiana, and Florida, do not receive the most funding for HIV programs. In fact, not one of the top five states with the most people living with HIV per 100,000, all of which are states in the southern region, receives the most HIV funding. New York and California receive the most funding at \$81,586,466 and \$72,029,355 respectively even though they are the tenth and twelfth states with the most people living with HIV. Georgia has the highest rate of HIV diagnosis in the country, but receives only 23.8% of what the state of New York receives (“State Health Profiles”). Some southern states have also opted to reject a Medicaid expansion under the Affordable Health Care Act (Sangaramoorthy). This expansion would have provided health care options for thousands of uninsured southerners and would have made it easier for a person living in poverty to receive HIV testing and medications.

The cuts and underfunding of HIV programming hits the Southern region particularly hard because it is a region that is already greatly affected by poverty. A

person's income has been directly related to their risk of contracting HIV with those earning less than \$10,000 a year having three times the HIV risk as someone who makes over \$50,000 a year. The Director of the Center for AIDS Research at the University of Alabama in Birmingham states this issues simply by saying, "HIV is clearly a disease of poverty. And there is a lot of poverty in the South," (Kohn). In 2016, Louisiana, Mississippi, Kentucky, and Washington D.C. all had over 18% of their population living in poverty and Oklahoma, Arkansas, Alabama, Georgia, and West Virginia all had between 16 and 17.9% of the population below the poverty line (Bishaw, 3). Nearly 41% of the United States' population living in poverty lives in the southern region.

In contrast to other regions in the United States where poverty is centered in urban communities, poverty in the South is highest in suburban and rural areas (Sangaramoorthy). These are often areas affected by food deserts, which are areas with a shortage of grocery stores or farmers' markets that provide affordable, fresh food options. Food insecurity is heavily linked to poor disease management. For individuals living with HIV specifically, food insecurity has been linked to reduced effectiveness in treatment to suppress viral load. Food facilitates the absorption of drugs and a lack of proper nutrition can have negative effects on a person with even a healthy immune system. A person living with HIV is at even higher risk for suppressed immunity when they live in food insecure areas, increasing their risk for secondary infections (Bansah, 195-197). Additionally, food insecurity has been linked to higher rates of depression, compounding the high rates of depression that people living with HIV already face.

Poverty is one of the most pronounced HIV risk factors and numerous studies have shown that HIV rates are higher in areas of concentrated poverty (Reif, 355). HIV

can be effectively treated if a person maintains a low viral load through strict adherence to medication. Dealing with the stresses of poverty such as a lack of access to housing, food, clothing, or basic hygienic needs, can be a barrier to maintain a consistent medication schedule, especially when antiretroviral drugs can cost up to \$15,000 a year (Whitehorn, Cawthorne). Poor populations also tend to use emergency rooms when their symptoms become critical instead of using primary care clinics and receiving preventative HIV treatments. There is also a lower chance that a person living in poverty will be exposed to safer-sex education efforts or information about HIV, which leads to misconceptions about the disease (Smith, 527).

High incidents of poverty, combined with a decrease in federal HIV funding, puts people living in the South at higher risk for developing HIV. People living with HIV in the South also have a higher risk of developing AIDS if they are unable to manage their disease due to financial barriers.

Geographic Factors:

HIV in the South is different from HIV in any other region in that it is more prevalent in suburban and rural areas as opposed to urban areas. Health clinics and hospitals in rural areas are sporadic and are often over crowded. In a study that measured the “best” and “worst” hospitals in the United States based on patient experience, mortality rates, quality of treatment, and cost, the biggest risk factors for being in the “worst” hospital category was being small or located in the South (Jha). People living with HIV in the rural South must travel far distances to receive health care, which has been shown to reduce adherence to medication schedules and appointment times (Syed, 985). Having to travel far distances means a person living with HIV will have to take

more time off work, which would add extra stress to their lives, negatively impacting their already fragile immune system.

Opiate drug addictions are also higher in the rural areas of the South. Rural medical professionals are in a predicament because their main job is to take away patients's pain. However, many hospital systems in the South do not have enough pain management resources, such as physical therapy clinics, located in rural areas. This leaves doctors with few options, attributing to an over prescription of opioid pain pills. While physical therapy, if available, could be a great option for pain management, transportation to these clinics is a major barrier to people living in poverty in the South. Even if a person does have transportation options, their health insurance may not cover the service, leaving them to pay out of pocket, which may be unsustainable.

Once a person is addicted to heroin, there risk for developing HIV increases dramatically if they share needles. Sharing needles stems from a lack of financial means to buy clean needles and a lack of access to clean needles. Sharing needles is one of the biggest risk factors for developing HIV because the virus can be transferred from one person to another through the needle. As mentioned previously, reusing needles was one of the prime ways HIV spread so quickly in West Africa and Haiti. When a person living in the south is already living in poverty and is addicted to heroin, it becomes easier to turn to sharing needles than seeking clean ones, increasing the number of people contracting HIV (Runyon). To make matters worse, most states in the South do not have laws that authorize needle exchange programs ("Laws Related to Syringe Exchange"). This means that even is a person had the transportation and time to travel, they may need to drive many miles or even many states away to obtain clean needles. The likelihood of

a person doing that when they can just share their needle with someone else is small. The current opioid epidemic itself is not a major contributor to an increase rate in HIV.

Instead it is the lack of medical resources available in the rural south that contributes to the opioid epidemic and the use of contaminated needles.

The Criminality of HIV:

A person cannot be given a harsher criminal punishment for having the flu. They cannot be quarantined until their flu is gone and their flu status cannot be revealed to government officials. The flu is a virus just like HIV, however a person with HIV is a criminal in the eyes of the law. Ever since the CDC announced the four groups that are at higher risk for developing HIV- the 4-H Club- HIV has been followed by a shadow of criminality. Society thinks a person living with HIV is either a victim of heinous crime against their health or the perpetrator of that crime.

These stereotypes have led to the creation of many laws that unfairly punish people living with HIV. Every southern state, except for Maryland, has some version of a “quarantine law” on the books. The basis of most of these laws is that a government official can decide to quarantine or enforce mandatory treatment on a person they suspect to have a communicable disease, such as HIV. In some of these laws, the person in question does not even have to have had committed a crime. Furthermore, the government officials making the call on whether a person should be quarantined or not are rarely, if ever, a person with medical training. For example, in the District of Columbia, the Mayor has the power to quarantine an HIV positive person. In North Carolina, a person can be arrested just to obtain an HIV test. This North Carolinian law criminalizes the act of finding out one’s HIV status and knowing one’s status is the first

step to treatment and better health. Arkansas and Louisiana both have laws that require a person living with HIV who is charged with a crime to be registered to the sex offender's list. Another arbitrary Arkansas law prevents a transgender person living with HIV who was charged with a crime from legally changing their name until their registration requirement has ended ("State HIV Laws").

Most of these laws were enacted very early in the AIDS crisis and were meant to protect people against the spread of HIV around the same time the CDC reported on the 4-H Club. These laws are flawed in many ways, but most importantly, they do not consider viral load. As mentioned previously, a person living with HIV that takes their medication consistently can have a viral load so small (under 200 copies/ml) that they are considered undetectable and not transmittable (McCray, 2). People living with a non-transmittable HIV status are being given harsher sentences compared to their HIV negative counterparts even if they have taken all the right precautions to prevent the spread of their HIV. These people could be taking their antiretroviral drugs everyday and not be physically able to transmit HIV, but they can still be quarantined at the will of a government official. Even if these laws did take viral load into account, they do not take socioeconomic status into account, since we know that poverty greatly affects a person's ability to get the antiretroviral drugs that will lower their virus count.

Specific HIV laws instill fear and further stigmatize the disease. If a person who thinks they might be at risk for contracting HIV knows that a HIV positive status could land them in jail, they could very easily decide to not get tested. Almost every HIV law is based on a person "knowingly" spreading HIV. If a person does not get tested to avoid,

“knowing” whether they have HIV, not only will this person leave a door open to infect others, but they will put themselves at greater risk to develop AIDS.

It is important to take a step back and realize that people being criminalized for having HIV are being targeted specifically because they have a life-threatening disease. No one chose to be HIV positive and it is not a criminal act to be HIV positive. Gay men who have had sex within the last twelve months cannot even donate blood because of fear surrounding HIV. Even if these men have proof of being HIV negative, they still are not allowed to donate blood to save a life. The hysteria that was built out of stigma has caused HIV to be the most criminalized disease in our country’s history and it continues to punish gay men in this country regardless of their status.

The issue of HIV does not stop when a person is put behind bars. The CDC reported that in 2010, the rate of HIV was five times higher among incarcerated people than people outside of the prison system. Unfortunately, not all prisons have the information or the capital to provide HIV positive prisoners with the proper medical care they need. This means that the 3,913 inmates who were living with an AIDS diagnosis in prison in 2010, were unlikely to receive life-saving medication (“HIV Among Incarcerated Populations”). Furthermore, when a person with HIV is held in confined spaces with many other people greatly the chance of developing a life threatening secondary infection is greatly increased. A study in 1999, showed that HIV positive prisoners in a South Carolina prison were contracting pulmonary tuberculosis (TB) at a higher than normal rate. TB was spread even after an extensive screening for the disease was done on each prisoner prior to entry into the prison. Once the bacteria got into the population living with HIV, it spread to 323 prisoners (McLaughlin, 670).

The South's incarceration patterns are another contributing factor to high HIV rates. The South has the highest rates of incarceration in the country, at an average of 790 per 100,000 people. African American and Hispanic prisoners outnumber white prisoners, even though African Americans make up only 13% of the country's population and whites make up over 63%. Also, more women of color are living with HIV in prison than men and most prisoners come from low socioeconomic backgrounds where HIV is already more prevalent. In every other region of the country a majority of prisoners come from urban areas, but in the South prisoners are equally from rural and urban settings, where again HIV is more prevalent. It is suggested that through high incarceration of women in rural areas in the South, the population pool of partners is lowered, which increases the chances of HIV being spread from through a community (Hammett, S21). Furthermore, prison health budgets do not affectively cover all the basic needs of their prisoners. Health care providers in these facilities are already overworked and understaffed, which means preventative measures like PReP and frequent HIV tests are not provided unless they are directly requested by the inmate (Hammett, S21). This can lead to delayed diagnosis and time for the disease to spread.

Government and HIV Stigma:

"I don't want to say the quarantine word, but I guess I just said it," were the words uttered by Georgia Republican State Representative Betty Price when she was asked how HIV could be stemmed in her state. She later continued to say that, "It's almost frightening the number of people who are living that are ... carriers with the potential to spread. Whereas in the past, they died more readily, and then at that point, they're not posing a risk." Price implied that controlling the spread of HIV was easier

when everyone who got HIV quickly developed AIDS and died. Betty Price is representative in the state with the single highest HIV rate in the country, Georgia. Her comments point out the lack of compassion surrounding HIV that is still very present at even the highest levels of government. What makes Price's comments more troubling is that she is a trained medical doctor, having gotten her Doctor of Medicine at McGill University (Armus). When our nation's representatives, especially those with medical training, talk about people living with HIV as a risk to society by just being alive, it is easy to see how people living with HIV can be terrified to reveal their status.

Government officials who perpetuate HIV stigma are not anything new. It took President Ronald Reagan four years to even mention the word AIDS in public and he only did so after being first prompted by a reporter. By the time our nation's leader actually acknowledged the disease in public, over 7,000 people had already died ("A Timeline of HIV and AIDS"). Our current President has not taken a better stance on the issue. President Trump's administration cut HIV/AIDS programming by \$800 million dollars in 2017 on top of the \$186.1 million dollars cut from the CDC's budget for HIV related programming. In 2017, President Trump also fired the remaining members of the HIV/AIDS advisory council and has left the director for the White House Office of National AIDS Policy vacant (Ehley). These actions come at a time when the opioid crisis could create a major setback for ending HIV in the United States and especially the South once and for all. By stopping funding and leaving major HIV committee positions vacant, new HIV prevention programming is at a standstill. President Trump has also been cited saying that Haitian immigrants trying to gain citizenship in the United States, "all

have AIDS.” This not only further stigmatizes HIV and Haitians, but it reverts the country back to the times of the 4-H Club (Shear).

Americans look to their government officials in times of fear to determine how to react to an issue. Since there has been a lack of empathy from the United States government towards people living with HIV since the very beginning of the AIDS crisis, our country has learned that it is ok to look down upon those suffering from the virus. Had our leaders stepped up and used AIDS as a platform to improve public health for all citizens instead of avoiding the issue almost entirely, the discussion of HIV in the South may have been totally different.

Conclusion:

The issues listed above are not a comprehensive list of the reasons HIV is high in the South. Instead it is a look at the issues that affect the most people living with HIV in the region. A key area that needs to be analyzed further is HIV in the African American community. HIV rates are highest among African Americans nationwide, but especially in the South where 54% of new HIV diagnoses are within the African American community (“HIV in the Southern United States”). Factors contributing to this issue may include a lack of trust for medical institutions in the South in the aftermath of the Tuskegee Syphilis Experiments or a greater set of systemic barriers due to intersections of race, class, and sexual orientation. Further research should be developed in this area.

The biggest barrier to an HIV-free South is stigma. If everyone who was at risk for contracting HIV had access to PReP and every person who had a positive HIV status had antiretroviral drugs, then the disease would stop dead in its tracks. However, people

are not getting tested and receiving the treatment they need because of the fear of being an outcast. HIV stigma and stereotypes are consequences of a lack of empathy that has been present since the beginning of the AIDS crisis. Had a number of events gone differently, had Gaëtan Dugas not been made the scapegoat of the AIDS crisis, had Ronald Regan discussed AIDS in public earlier, had the term “GRID” been erased as soon as it was written, had funding for antiretroviral drugs been provided sooner, maybe we would not be discussing HIV in the South today. As a society, we created the stigma that surrounds HIV through our comments, our votes, and our misconceptions. HIV is not a disease for criminals or sinners. It is not a curse from God or disease only gay men and drug addicts contract. HIV is a virus that infects regardless of color, gender, or sexual orientation. We are all at risk, but we can all work together to end HIV through educating our peers and correcting misconceptions. An end to HIV stigma can lead to an end to HIV. Stigma stops with you and me.

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