An Examination of Sexual Health Communication and Decision-making as Behavioral Determinants for the Race/ethnicity-based Disproportionality in New Infections of Human Immunodeficiency Virus Among Men Who Have Sex with Men in the City of New York

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Abstract

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Worldwide uneven health outcomes based on race/ethnicity is a well-documented phenomenon and conversations relating to health disparities are well underway. In the United States, rates of new infections of HIV among African American and Hispanic men who have sex with men (MSM) have realized an upward trend over the past decade whilst rates among other demographic groups have realized noteworthy declines. The present study presents a quantitative analysis of sexual health communication and behavioral indicators with a view toward identifying whether African American and Hispanic MSM engage in fundamentally different sexual health communication and behaviors such that the divergent trends in new infections of HIV make sense. Through a series of descriptive, chi-square, binary and ordinal logistic statistical methods, the degree to which sexual health communication and behaviors differed between groups of respondents in the New York City area were analyzed. The results showed a significant divergence in sexual health communication and behavior, based on race/ethnicity, education, age and other indicators. In the overall sample (n = 212), African American and

Hispanic MSM were found to be significantly less likely to adhere to HIV medication regimens, use protection, ask about partners' HIV status and disclose their own HIV status compared to members of other racial/ethnic groups. Other similarly significant findings suggested a need to address the underlying causes of divergent sexual health communication and health maintenance-related behaviors that contribute to disproportionality in new infections of HIV among African American and Hispanic MSM.

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Dedication

This work is dedicated to the marginalized African American and Hispanic men who are subjected to systemic racism on a daily basis because of their skin color. It is further dedicated to those African American and Hispanic men who have been ostracized from their families because of their basic instinct to love—other men. It is truly a pity that their families missed the opportunity to embrace diversity and respect individualism, but I will continue to advocate for acceptance, desegregation, income and wealth equality, and the elimination of health disparities.

Chapter 1: Introduction

The Centers for Disease Control and Prevention have reported a reasonably steady decline of new HIV diagnoses in the United States since 2008. The decline is unquestionably attributable to aggressive health education campaigns, interventive action by the Food and Drug Administration to approve Truvada to be used prophylactically to prevent or reduce new HIV infections, and the Patient Protection and Affordable Care Act (ACA), which expanded access to medical coverage to an estimated 20 million previously uninsured Americans (Carrasquillo & Mueller, 2018; Davidoff et al., 2015). Patient assistance programs have also widened access to antiretroviral medication(s) in support of sustained viral suppression for persons diagnosed with HIV (Berry, 2016). This is important because the sustained application of proper medicinal treatment for HIV has the potential to keep affected individuals healthy for many years by reducing the HIV RNA level. The goal is to achieve undetectable levels, fight against a decrease in CD4 cells (Vermula, 2016), and prevent HIV from attacking the immune system to the point that life threatening infections and cancers begin to develop.

The preservation of CD4 cells is critical in reducing the risk that opportunistic infections will emerge. Such infections do not typically impact people with strong immune systems (Faal et al., 2011), and reducing the frequency with which they occur enhances both the life expectancy and quality of life of patients living with HIV. Overall, the 17.7% decline in the annual rate of new diagnoses across all demographic groups and transmission categories between 2008 and 2016 represents a positive development in the fight against HIV/AIDS. However, a review of these data in disaggregated form reveals a profoundly disconcerting reality for the discrete category of African American/black and Hispanic/Latino males who have sex with men (MSM). Comparing the data for this group with the population as a whole demonstrates an increase in the

rate of new diagnoses for members of this group, which contrasts sharply with the general decline experienced by MSM and non-MSM of other ethnicities and/or races over the same period. The present study will explore ethnic/racial differences in behavioral indicators associated with healthy sexual communication and decision-making as a proximate cause of this disparity.

1.1 Statement of the Problem

HIV prevention has been a priority for the international community of health policymakers, organizations, researchers and other stakeholders for decades. An overall reduction of new HIV infections has been, and remains, a priority for health promotion and disease prevention in the United States. That having been said, national health policy currently lacks a separate goal of reducing new HIV infections among the priority populations of African American and Hispanic MSM. Since 2008 the annual rate of new diagnoses among African American and Hispanic MSM registered an average annual increase of 0.43% and 2.05%, respectively, with the number of new diagnoses spiking 4.04% and 8.82%, respectively, in 2014. Since 2008, new diagnoses among white and mixed race MSM have declined by an annual average of 2.59% and 4.57%, respectively and, while the African American and Hispanic MSM population registered a significant spike in HIV diagnoses in 2014, white MSM and mixed race MSM groups registered 0.96% and 12.49% decline in new HIV diagnoses in the same year. These contradictory trends, although noted in the data at the time, have yet to be analyzed in detail, and the underlying causes are currently a source of speculation. There is, however, a need to recognize and target more clearly the impact of demographic characteristics and associated environmental factors on the transmission and treatment of HIV. In practice, race/ethnicity is not a neutral identity marker in the United States, but rather a strong indicator of likely exposure to

socioeconomic and cultural trends with negative health implications. Recognizing this politically sensitive, but medically essential if the negative trend in HIV transmission and HIV-related mortality now noted in the population at large is to extend to members of these minority groups. In addition to the sensitivities surrounding race, the specific relationship between MSM and a greater prevalence of HIV/AIDS is a phenomenon which the medical community has identified since the early days of the AIDS epidemic. That said, the relationship between race and sexuality as underlying predictors or, indeed, causal factors in the transmission of HIV/AIDS remains to be properly understood.

Differences in health and health outcomes have persisted in numerous forms over the course of American history and these "disparities exist across race/ethnicity, socioeconomic status (SES)… and other social categories" (Jackson et al., 2016, p. 1349). James and Hall (2017) reviewed health disparities among various racial/ethnic groups in the United States and found that individuals identifying as either non-Hispanic black or Hispanic experience a poorer quality of life compared to those identifying as non-Hispanic white. They also found that fewer non-Hispanic blacks (26.8%) and those identifying as Hispanic (38.9%) enjoyed the privilege of having health care coverage when compared with individuals identifying as non-Hispanic white, a demographic group that reports 83.9% coverage. In the same study, approximately 25% of non-Hispanic blacks and those identifying as Hispanic reported being unable to access medical care when they deemed it necessary to do so because they were unable to afford the requisite level of care. By contrast, only 15% of non-Hispanic whites expressed a similar concern. To put this disparity into a socioeconomic context, persons identifying as non-Hispanic black or Hispanic are less likely to have a college degree and more likely to earn annual salaries of less than $25,000. The predictable correlation between racial/ethnic background, social class and the

ability to access the necessary standard of healthcare to match national trends is clearly demonstrated by the data.

Whereas anecdotal examples of the manifold health disparities experienced by African Americans and Hispanics in the United States abound to such a degree that the phenomenon is generally well-established, research into health equity has yet to identify causal factors for these differences beyond skin color. The steadily increasing rates of HIV infections among African American/black and Hispanic/Latino MSM is significant because they are emblematic of the fact that public health and health education outreach efforts have been less effective among ethnic minorities in the United States, and they signal that more needs to be done to identify ways to engage with this priority population in order to effectively reduce the rate and frequency of new HIV infections among its members. It is problematic that analyses of data collected over the past decade have consistently demonstrated that minority MSM are most often affected by new HIV infections without providing empirical explanations for this trend beyond the color of an individual's skin. It is therefore important, in conducting new research on this topic, to understand the role of behavioral determinants in relation to the emergence of new HIV infections among African American and Hispanic MSM by examining how MSM of different racial/ethnic groups engage in behaviors that support sexual health and wellness, such as actively pursuing HIV testing, adhering to antiretroviral therapies (ART), behaving in a manner that supports sustained viral suppression, using protection when sexually engaged, employing healthy sexuality-related communication strategies which might include asking partners about their STD and HIV status, notifying partners about one's own STD and HIV status, and confronting challenges which relate to the act of disclosing one's status with actual or intended sexual partners.

Research of this type is intrinsically complicated by the political and social dimensions to the issue of HIV transmission and infection rates in minority groups. Historically there have been instances of medical professionals making presumptions about lifestyle informed only by the color of a patient's skin which have prejudiced the care they then received. The United States has a complicated history of race relations and this has impacted both the confidence which minorities express in medical institutions and the behavioral practices which have developed within minority communities. Since this study deals specifically with the MSM subgroups of Hispanics/Latinos and African Americans, it is important to recognize the specific history of stigma and misreporting of sexual practices which has tended to prevail among members of this constituency. In the same way that controversies associated with race relations remain largely unresolved in the United States, so too do homosexual relationships and sexual encounters continue to meet with prejudiced responses to a sufficiently widespread extent that MSM are still justified in expressing skepticism about the potential biases of clinicians and nurses.

Gathering data relating to sexual practices is a notoriously difficult exercise, made increasingly so by the trends which associate high risk sexual behaviors among black and Hispanic MSM with relatively high levels of cognitive impairment attributable to substance use, psychiatric disorders—such as depression—and social factors which impact the use of condoms and other reliable methods for preventing the spread of infection. There is also a concern that low rates of health literacy may cause persons living with HIV/AIDS to inaccurately report relevant details relating to their condition and associated behaviors, making it difficult for researchers to generate a comprehensive of HIV transmission in the United States.

1.2 Purpose of the Study

New HIV infections for a significant number of demographic groups have declined steadily since 2008, but the incidence of new HIV infections among African American and Hispanic MSM has continued to increase year over year. This quantitative study used a two-pronged approach to describe the nature of sexual communication and behavioral differences between MSM of different racial/ethnic groups. The aim was to identify whether there existed significant differences in practicing health-focused communication strategies with sexual partners (such as disclosing one's HIV status and asking sexual partners to share their HIV statuses prior to engaging in sexual activity) and health-focused sexual behaviors (such as practicing high levels of HIV medication adherence where applicable for antiretroviral or prophylactic use, maintaining undetectable HIV RNA levels if positive for HIV, and engaging in regular condom use to promote safer sex). In recognition of the steady increase of new HIV infections among MSM identifying as African American and/or Hispanic, a secondary but equally important aim was established in the course of this study: to identify the pervasiveness of HIV status misrepresentation among HIV+ MSM and then to analyze those data through the lens of other respondent characteristics, including age, race/ethnicity, highest level of education, occupational indicators, income, health insurance status, penal history, sexual preference identification, sexual experience with men, HIV medication adherence and funding, status disclosure to family members, protection use, sexual communication habits, and drug use.

By understanding any significant behavioral or communication differences between MSM of different racial/ethnic identities that place those identifying as African American and/or Latino at greater and disparate risk for new infections of HIV, targeted sexual health interventions aimed at promoting greater health-focused sexual communication and reducing

unhealthy sexual behaviors could be developed and refined to address those variables. This study was initially concerned to gather data which would facilitate a more comprehensive understanding of why rates of new diagnoses among this specific subgroup are increasing while rates in other populations are in decline. Analysis of these data allows for the development of several strategies which specifically target the relevant variables, with a view to reducing the disparity of health outcomes across the population and eliminating the present disadvantage experienced by the African American and Latino MSM subgroup.

1.3 Significance of the Research

Nine out of ten infections of HIV are "transmitted from people not diagnosed or diagnosed but not in care" (Skarbinski et al., 2015, p. 590). The problem under consideration here is particularly significant because there are many interventions aimed at achieving a downward trend in new infections of HIV among all people; however, interventions seem to be less successful for African American/black and Hispanic/Latino MSM than they are for other subgroups. Since African American and Hispanic MSM are disproportionately affected by new infections of HIV, at a much greater rate than their non-minority counterparts for causes that are not understood, and since African American and Hispanic persons are less likely to have access to healthcare which could support regular HIV testing and treatment, it is important for the research community to pursue social and behavioral determinants as sources for these trends. These are not the only possible causal factors, but they should at the very least be further considered and analyzed. By gaining an appreciation for how sexuality-related behaviors differ between various subgroups, public health researchers and health specialists will be armed with critical information that will aid in the development of interventions to address those behaviors.

The United States is characteristically pluralistic in the approach taken to treatment and prevention methods aimed at reducing the spread of HIV/AIDS. Many of these methods have been effective, to the extent that the condition is now largely manageable and perceived by doctors as chronic rather than necessarily terminal. That said, the diversity of approaches taken in different states, districts, towns and cities has led to an unequal distribution of effective practice which has not consistently targeted those minority groups most at risk for the contracting and transmitting of HIV. This study is not a political document, nor is the agenda to examine the rights and wrongs of devolving much of the policymaking in relation to this healthcare crisis to the state and local level. However, the historical variation in treatment strategies across the country does provide important context for the questions posed here.

1.4 Nature of the Study

The premise that drives this study is that, in addition to the numerous socioeconomic challenges facing persons who identify as African American/black, Hispanic or Latino in the United States, it appears that it is just a matter of time before large numbers of persons who belong to these minority groups are diagnosed as HIV positive—a phenomenon that questions *when* individuals who belong to these marginalized subgroups will present with HIV, rather than *if* they will present with it. While treatment is often useful for sustained viral suppression and the extension of life, HIV is an extraordinary case because the extent to which it impacts on quality of life is extreme, and these impacts are diverse. HIV is a significant risk factor for the acquisition of the numerous aforementioned chronic conditions, resulting in the emergence of an entirely new set of side effects and quality of life challenges that are adjunct to those conditions, and this perpetual cycle continues negatively impact the life experience of those in the minority MSM community. Since MSM of minority extraction are so disproportionately affected by the

HIV epidemic, this study seeks simply to identify and explore behavioral differences associated with healthy sexual communication and sexual health decision-making along ethnic/racial lines. It will provide invaluable information, particularly when considered in tandem with a separate study presently being undertaken by the same author which aims to develop behavioral or cognitive behavioral interventions to reduce, manage or commute the behaviors that place African American and Hispanic MSM at the greatest risk of any demographic group for manifesting new HIV infections.

The political and sociological pressure to develop and apply universal solutions to the HIV epidemic has resulted in the retrograde treatment of minority groups. Normative assumptions based on average or median income, employment status, diversity of sexual encounters and mental health status have conspired to generate an approach to HIV prevention and treatment which serves the interests of most Americans effectively but actively restricts the likelihood for positive health outcomes among MSM who belong to ethnic minorities. The historical failure to target and refine preventative policies has led to a kind of ghettoization whereby HIV is now entrenched within this community. Because MSM tend to engage in different sexual practices from the mainstream population, and because the subgroup of prospective sexual partners upon which they draw is relatively restricted, their experience of the HIV crisis has been particularly acute. Although most of the public education work done in this area has targeted the MSM community, it has not taken sufficient account of the disparities which exist on the basis of race and SES. The present study sets out to redress that shortcoming.

1.5 Assumptions

A primary assumption in this study is that respondents willfully completed the web-based data-gathering instrument in an environment that was free from perceived bias or intimidation

and that responses to each item on the instrument were made in a spirit of honesty, uprightness and good faith. A secondary assumption is that respondents were able to read and understand the items presented in the web-based instrument and that the register of English utilized was sufficiently comprehensible for a pool of respondents with diverse levels of educational attainment and literacy. To reduce challenges with language accessibility, the instrument was developed with simple phraseology, using upper-elementary level English words. After rewording the instrument to achieve a more accessible level of written English, an analysis of the instrument using the Fleisch Kincaid formula for grade level readability revealed that the instrument rated 5.8, meaning that the text would be very easily read and comprehended by individuals reading at a fifth grade level. Further analysis using the Fleisch Reading Ease formula demonstrated a reading ease score of 69.8, which places the instrument between the categories labelled "fairly easy" and "standard." There was a balance to be struck in designing an instrument that was both sufficiently precise to extract usable data and sufficiently simply expressed to be readily accessible for all respondents.

1.6 Scope and Delimitations

To prevent the overgeneralization of these findings, it is necessary to establish the boundaries within which the study was constructed. This focus of this study was limited to 18-year-old men residing in the New York City metropolitan area who had had sexual contact with one or more other men and who did not self-identify as asexual. Recruitment material were posted and advertised in sections of online forums serving the New York City metropolitan area. Due to some modifications in the sampling plan made in response to COVID-19, the study was further limited to individuals who fell into one or more of the following categories: those who were users of information and communication technologies with access to social media platforms

where it was possible to encounter the recruitment materials and the designated URL which allowed those who knew it to participate by responding to the web-based instrument or recipients of referrals from friends or other social contacts who had come into contact with the recruitment materials and shared them

Further limiting factors which affected the present study included the social and behavioral variables that were analyzed. While any number of social and behavioral factors might contribute to the potential for new HIV infection risks, the present study focused on socioeconomics, health disparities, sexual health communication and specific behaviors that reduce the potential for transmission of STIs, such as regular condom use. Moreover, New York City—a proverbial melting-pot of cultural and language diversity—is known as home to many residents whose arterial languages are foreign, including some who have very little or no functional literacy in English. The U.S. Census Bureau indicated that 29.1% of New York City residents identified as Hispanic or Latino (U.S. Census Bureau, 2020). In 2015, the most recent year for which data were available, the U.S. Census Bureau recorded the fact that among the national population of adults older than five, just over 60 million residents speak languages other than English at home with 62.5% of those residents speaking Spanish at home (U.S. Census, 2015). It is precisely for these reasons that the present study was delimited by the instrument being presented in an English-only format rather than in multilingual formats. This delimitation was planned due to budget constraints associated with the costs of translating the original instrument and securing the services of reliable translators to translate responses to constructed response items, Questions 7, 25, 28, and 29.

1.7 Limitations

The foremost limitation of this study was the identification of an acceptable sampling procedure and data collection protocol in the context of a global pandemic. In the original design—a mixed methods design—web-based data collection activities were planned, as described above, however the recruitment plan would have been structured differently so as to result in a more representative sample. In its revised iteration, the sample was narrowed to members of the MSM community who happened upon the recruitment material on social media pages maintained by the author of this study, and/or by receiving recruitment material through referrals. The coronavirus-related interruptions made it impossible in practice to capture a sample that was meaningfully representative of the entire diverse population of the estimated 198,833 MSM in the City of New York, and such an impact consequently limits the extent to which the results published here can be broadly generalized to that wider population.

Under the original design for the study, quantitative data were to have been supported by qualitative data from focus groups which would have allowed the survey to explore identified social and behavioral trends that were quantitatively captured. Formerly styled as an "error detection" (Knudson & Morrison, 2002, p. 112) tool, the qualitative approach would have allowed made it possible for the survey to capture the "thoughts, feelings or interpretations" (Given, 2008, p. 1) of respondents and to get a sense of how respondents viewed and experienced the social and behavioral context of health-focused sexual decision-making and practice—elements that were more difficult to quantitatively capture via a web-based data collection instrument. Given the intersectional nature of this research, which touches on psychology, sociology, public health and public policy, a mixed-methods approach would have

ensured greater scope for disclosure of attitudes and practices which might explain anomalies in the quantitative data.

Another limitation of the present study relates to the lack of verifiability of the self-reported data, especially to items asking respondents to disclose sensitive information such as whether they have ever misrepresented their HIV status to sexual partners or to indicate specific reasons why they might not disclose their status to sexual partners. Among academics, legislation which relates to HIV disclosure is understood to be ambiguous, and this study recognizes that respondents to a survey who lack training in criminal or civil law are likely to experience uncertainty with respect to their HIV disclosure obligations. While this limitation must be acknowledged, this study contends that the potential for misrepresentation is moderated by implementing three significant proactive measures in the design of the survey: sampling based on voluntary opt-in, limiting the collection of personally identifiable data, and providing the opportunity for respondents to select a safe space within which to complete the brief questionnaire in private. This last measure, in particular, should have significantly mitigated the possibility that a respondent might feel pressurized to provide answers that reflected their sense of what was socially acceptable.

1.8 Summary

Despite the limitations in terms of budget and sample size and the fact that a mixed-methods approach was not practicable in the context of the COVID-19 pandemic, the web-based data-gathering instrument referred to above was deployed and advertised as planned. Quantitative data were gathered from a pool of self-selecting individuals within the New York City metropolitan area who defined as MSM and otherwise presented with a range of demographic and social backgrounds. Data were gathered pursuant to nine predetermined

research questions and subsequently analyzed using a range of statistical models. While care should be taken not to overgeneralize based on the conclusions reached, this study is presented as a snapshot into the intersectional pressures which impact adult MSM of different racial/ethnic backgrounds living in New York City at the present time.

Chapter 2: Review of the Literature

It is a matter of fact that rates of HIV are historically and presently higher in African American communities when compared with the wider United States population (Centers for Disease Control & Prevention, 2018a). In 2018 nearly half (48%) of all new infections were of African Americans, and debate continues to range over the causes of this disparity with various commentators and physicians citing inequality of wealth or income, while others have focused on cultural differences within the broader population. Understanding and interpreting the causal factors which lie behind this disparity will be essential to addressing the problem. The present paper draws on evidence from a wide range of studies which have identified and analyzed links between ethnicity and infection rates for HIV/AIDS. It takes an intersectional approach which reflects the complexity of this problem and acknowledges the potential relevance of various factors, not least sexuality, with MSM more vulnerable to contracting HIV, and African American MSM the single most at-risk group in the United States.

Studies such as this are increasingly important as the medical and scholarly communities work to engage with and deconstruct damaging narratives around the alleged promiscuity and proclivity towards drug use which have historically inflected our understanding of the AIDS crisis. In providing context for this analysis, African American women are principally infected through heterosexual sexual encounters and are less likely to be infected through intravenous drug use. Prior research has indicated that African American MSM report fewer sexual partners, fewer instances of unprotected anal intercourse and less frequent drug use than white MSM; however, they continue to outpace white males in new HIV infections. According to those findings one might conclude that the causes of the disparity which radically disadvantages African Americans in terms of their susceptibility to HIV/AIDS must lie elsewhere and cannot

be accounted for by reference to these frequently cited canards. The present study undertakes a review of the most recent literature which attributes some degree of causality to health disparities and the relationship between ethnic identity and economic circumstances in the United States of America; social factors which have a determinant effect on health outcomes; the role of stress in health outcomes and the relationship between stress and demography in the United States of America; and the social and cultural experience of MSM and the need to approach African American MSM as a priority population for restricting the transmission of HIV.

The central argument is that each of these factors contributes something to our understanding of the problem and our ability to recommend policy solutions which circumvent the unsubstantiated assumptions made by researchers in previous decades. In order to solve the AIDS crisis is it necessary to recognize its multivalence and to respond in a nuanced way, without further exacerbating the gap in health outcomes between the white and African American populations who are vulnerable to contracting the condition.

In order to properly situate and contextualize the importance of this new study it has been necessary to conduct a thorough review of the existing literature which relates to the topic of HIV/AIDS in general and the transmission of the virus among minority demographic groups in particular. Government sources such as the U.S. Census Bureau databases were used to identify national demographic groups, trends and communities which are stakeholders in this area. Other relevant secondary sources have been published by organizations and institutions such as the National Center for HIV/AIDS, Viral Hepatitis, STD, and Tuberculosis Prevention (NCHHSTP) and its AtlasPlus interactive data tool, two service offerings of the Centers for Disease Control and Prevention, AIDSinfo, National Institutes of Health fact sheets, and PubMed and Medline Plus, service offerings of the National Library of Medicine. Databases such as Health Reference

Center Academic, Cochrane Library, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Health Source: Nursing/Academic Education. The variety of secondary sources consulted before undertaking this study provided an opportunity to engage with the diversity of thought and investigations that have been undertaken in pursuit of identifying and addressing issues associated with HIV, its history, and the longstanding impact the virus has had on ethnic minorities in the United States.

A thorough analysis of the literature also established the profundity of the virus' disproportionate distribution and the cultural impact it has had on of ethnic groups living with and dying from complications associated with HIV and further disparities in terms of sustained viral suppression differentials and the uneven progress in reducing new infections and HIV-related deaths among African American and Hispanic persons, principally African American and Hispanic MSM. There is a positive trend towards producing more studies which acknowledge and account for the disproportionate distribution of HIV/AIDS within the U.S. population, however relatively few of these draw conclusions or propose specific action which the government and medical authorities might take in response to this phenomenon. A large and increasing quantity of data exists, but interpretations of that data tend, on the whole, to seek uniform trends and, in their absence, to focus on statistical averages. Such an approach reduces the efficacy of these studies' conclusions for minority groups where the risk of infection and onward transmission is not reducing in line with these normative trends.

The logic behind selecting and utilizing this particular corpus of resources was that they were all freely available through open access repositories, and also because the authorities responsible for producing them all have reputations for presenting empirically-based research targeted at addressing the challenges associated with health disparities, harm reduction, and

human wellness. As such they are credible, authoritative, and share the interests of the present study. They also tend to present intersectional analyses which control for or explicitly identify environmental factors likely to impact on the pathology and prevalence of HIV in specific subgroups. Additionally, many of the resources held by the digital libraries present results of federally funded research rather than findings of projects funded by large corporations and special interest groups with commercial interests in the pharmaceutical industry which might compromise their objectivity. This is an important distinction in terms of the need to control for bias when conducting research into such a sensitive topic. The wider body of literature pertaining to this subject is understandably dominated by studies which received funding from such groups, and their conclusions are not necessarily invalid, however such are the sensitivities associated with undertaking the present study that it was felt necessary to exclude potentially biased data and concentrate only on the most credible surveys of the HIV epidemic in its present form.

2.1 The Intersection of Race, SES and Health

The history of racial disparities in public health is well established and affects non-white persons in various ways in American society. Williams et al. (1994) described the situation by demonstrating how life expectancy for non-whites was 14.6 years shorter than the life expectancy of whites at the beginning of the 20th century and went on to show that although by 1990 this disparity had been reduced it remained statistically significant, with blacks trailing whites by 7 years. By 2004, the gap had narrowed to 5.2 years (Williams et al., 2010, p. 70), with the life expectancy of whites being 78.3 years and blacks having a life expectancy of 73.1. These statistics demonstrate significant advancements, and perhaps the gap will narrow even further over time. A partial explanation for this positive trend is that during the past century many health-related innovations were developed—most notably, pharmaceutical drugs and new

medical technologies which became increasingly widely available. However, by the late 1990s, Williams et al. (1997) conceded that there the health status of minority groups, compared to that of whites, was growing progressively worse. They attributed this trend to the impact of basic genetic-level biological differences. Subsequently, however, it proved necessary to revise this conviction in light of more comprehensive analysis which situated these medical disparities in the context of wider socioeconomic trends (Williams, 1997, p. 492).

This same study found that an individual American's SES was predominantly determined by race, and asserted that race itself was simply a proxy for a broad range of debilitating social factors which limited individual opportunity and access to effective medical care. This is an important observation in relation to the present study. Access to healthcare continues to depend largely on financial circumstances in the U.S., with a lack of medical insurance often cited as a reason for delaying or omitting to seek treatment. The best predictor of the quality of an individual's medical insurance is his or her SES, and consequently those of black/African American or Hispanic ethnicity remain at a disadvantage on relation to healthcare access.

Williams (1999, p. 173) demonstrated that the mortality gap between whites and ethnic minorities was steadily rising and that this rise was reflective of the different socioeconomic expectations and experiences of these two groups. This, perhaps, changed the way that health specialists viewed this important topic of health disparities, because it led inevitably to a discourse centered on racism and the necessity to consider race-related bias as intrinsic to the health and well-being of minority persons with HIV. Williams' controversial study defines racism in the healthcare sector as the consequence of policies applied by health practitioners and medical institutions that disadvantage one race over the other. For example, the establishment of

under-performing hospitals in poorer, minority communities could have a deleterious impact on health outcomes for minorities.

Another realization which this study first brought to light is that minority-specific stress is both an observable phenomenon and one with particular resonance for the question of health outcomes and life expectancy. Stress manifests physiologically as well as psychologically and can have debilitating consequences for the immune system even in HIV negative persons. In the context of a profound surge in diagnoses of mental health disorders, greater propensity to experience stress leaves these minority communities more radically exposed to the risk of contracting and transmitting HIV. Racial segregation restricts "African Americans' access to desirable educational and employment opportunities" (Williams, 1999, p. 173) which, in turn, limits health literacy along with access to well-paying jobs that offer quality health benefits. Limited health literacy might take several forms, being detrimental to health outcomes either because an individual fails to realize that they are unaware of medically significant information (such as the best route to access care or the best way to identify and respond to symptoms of a disease) or because they are conscious that they may be unaware of medically significant information, and respond to this awareness by manifesting increased levels of stress.

These limitations have stress-related consequences and there are attendant stress-related consequences associated with the perception of racial and ethnic discrimination. Williams et al. (2003) identified the perception of racial and ethnic bias in personal experiences in life as stress-inducing events that activate symptoms of stress. The personal experiences might include being passed over for a position for which an individual is well qualified and/or being the target of racial microaggressions perpetrated by persons belonging to the dominant population group or groups. These limitations of the human experience are certainly stress-inducing, and there are

profound consequences associated with them. Typically, they can trigger physical, emotional, cognitive and behavioral symptoms, such as feeling overwhelmed and lacking a sense of control of one's own destiny; becoming more isolated; experiencing headaches or nausea; experiencing a reduced level of sexual energy; exercising poor judgment and losing focus; and engaging in substance abuse, including the overuse of cigarettes and alcohol. Each of these symptoms present with their own host of health-related consequences, but their common origin—in this case—is the perception of discrimination based on race/ethnicity. Racial characteristics make up only one element of the human experience (Williams & Jackson, 2000, p. 1728), but they can be used to explain an entire host of disadvantages that negatively impact individual experience and social cohesion.

As such, any improvement in our knowledge and understanding of the impact which race has on individuals and on social policy, whether overt or covert, can "be used in the effort to eliminate" (Williams & Jackson, 2000, p. 1728) race/ethnicity-related differences in health outcomes in the United States. In light of this observation, in becomes increasingly apparent that the treatment prescribed for the prevention and management of HIV will differ depending on the lived experience of the group at which it is targeted. Characteristics such as health literacy and stress-related illness will define how well an individual responds to treatment, and are also likely to influence how rapidly and efficiently that treatment is sought out. Public awareness campaigns would therefore be more effective if they took these circumstances into account, and clinicians should likewise be acquainted with their diagnostic significance.

2.1.1 Relationships Between Race/Ethnicity, SES and Health

As noted above, new research identifies race as being often a useful proxy for socioeconomic conditions which have a bearing on health outcomes. Racism, as it is now

understood, is pervasive both insofar as it persists (often at a subconscious level) among researchers and within the medical community, and insofar as its legacy of socially exclusionary policies has led to certain population centers being profoundly under-served by the healthcare sector. Williams et al. (2016) discuss four ways in which SES and race correlate in the modern United States. They introduce their analysis by observing that each census which has taken place since 1790 has made reference to different racial categories (Nobles, 2000), once again emphasizing the lack of consistency in how these data have been gathered and interpreted over time. They point to the effect which stress has on individuals' health throughout their lives, and observe that "exposure to adversity throughout the life-course" (Williams et al., 2016, p. 3) is likely to exacerbate underlying health issues. They further note that socioeconomic terminology is sometimes applied with the same lack of consistency as terminology which relates to race, such that levels of poverty among African American and Hispanic communities are often regarded as comparable to those experienced by white Americans despite being more extreme in real terms (Williams et al., 2016, p. 4). This observation reinforces the point that researchers have seldom compared like with like when analyzing data which pertain to race, SES and health. Redressing this lack of sound methodology will be crucial to developing more inclusive strategies for reducing the disparity in health outcomes between black/Hispanic and white Americans.

Whereas much has recently been written on the phenomenon of unconscious bias, analysts are at least as concerned about the experience of overtly perceived racism and the impact on health this has for those subject to it. It is not uncommon for an individual or organization in the United States to be unaware that their approach is perceived as discriminatory by their black or Hispanic fellow citizens, but notwithstanding this lack of awareness the impact

such behavior has can be measurably negative. A recent study notes that, “Self-reported experiences of discrimination have been associated with a broad range of disease outcomes, preclinical indicators of disease (e.g. inflammation, visceral fat) and health risk behaviors” (Williams et al., 2016, p. 4), and recognizing this problem must surely be instrumental in solving it. Finally, returning to the notion of racial categorization as a socially-constructed *proxy* for social experience, these same researchers have noted the correlation between membership of the black or Hispanic sub-groups of the population and relatively higher exposure to crime, violence, marital and familial breakdown, unemployment and underemployment (Williams et al., 2016, pp. 4-5). Failure to properly account for these disadvantages when designing social and healthcare policy has led to a widening in the gap between health outcomes in the white population and those experienced by African Americans and Hispanics.

2.1.2 Disease of Greater Minority Concern

HIV is a virus that is most often transmitted through unprotected oral, vaginal or anal sexual contact, through occupational exposures, shared needles, and from mother-to-child contact, such as breastfeeding, labor and delivery, and gestation. Despite being regarded as a black disease since the time period in which the virus was first identified, HIV impacts members of all genders, sexualities, races, ethnicities and age groups in the United States. Even though the research community has never established a genetic predisposition for individuals based on race or ethnicity, there has been a tendency for HIV to disproportionately affect black Americans which has been remarked since its first identification, and the prevalence of HIV has increased among this demographic group—especially African American or black women, young people and MSM—in the years following its identification (Centers for Disease Control & Prevention, 2017a; Centers for Disease Control & Prevention, 2018a). Although individuals identifying as

African American or black comprise only 13.4% of the population in the United States (U.S. Census Bureau, 2018), they accounted for nearly half (44%) of all HIV diagnoses in 2016 (Centers for Disease Control & Prevention, 2017a) with MSM accounting for 67% of all new diagnoses and those identifying as African American or black MSM between the age of 13 and 24 years old accounting for 54% of all new HIV diagnoses. Thirty-nine percent (39%) of African American or black MSM in the United States who tested positive for the presence of HIV in 2016 ranged in age from 25-34 years old (Centers for Disease Control & Prevention, 2018b).

Over half of all African Americans or blacks who received an HIV diagnosis in 2016 were classified as MSM. These statistics are significant because they indicate that of all the new MSM-related diagnoses, individuals between 13 and 24 years old who identify as African American or black accounted for approximately 87% of all new infections among MSM. Among MSM in the same age group, Hispanic men were the second most frequently affected group, accounting for 25% of all new HIV diagnoses in 2016 (Centers for Disease Control & Prevention, 2017b)—which is a number much more closely approximating the population of individuals identifying as Hispanic in the United States, 18.1% (U.S. Census Bureau, 2018).

These statistics make plain the stark reality that HIV/AIDS is most prevalent and, in terms of its progress through the population, most virulent among young ethnic minority MSM. There are likely to be a number of relevant contributory factors which may or may not include genetic or biological predisposition. The literature makes plain the influence of SES which is frequently low within this group (even those black MSM likely to find their way into well paid employment are less likely to have done so in their early twenties). The confluence of factors including race-related stress, a culture of silence and stigma, lower rates of health literacy and reduced access to medical care due to restricted financial circumstances ensures that members of

this group remain disproportionately at risk for HIV infection and onward transmission, and it is therefore accurate to describe the virus as of greater concern to these individuals than to the wider population.

2.2 HIV and Its Broad Range of Complications

Compared to 1980s trends of disease progression and rapid death, contemporary treatment regimens for HIV have greatly improved the health outcomes for individuals diagnosed with the virus. The relevant medications, known as ART, slow the progression of HIV, thereby providing those with HIV an opportunity to live healthy lives for a long time. Yet, despite the ubiquitous mantra that HIV is no longer a death sentence, HIV and its related treatment brings about quality of life challenges and undesirable side effects for all those who live with it. The ART regimen alone may cause patients to experience nausea and episodic spontaneous vomiting, headaches, diarrhea, lethargy, insomnia, a dry mouth, impairment of spatial perception, abnormal changes in the texture or color of their skin, and Xerostomia. Another challenge associated with HIV is being immunocompromised, marking HIV positive persons as more susceptible to the acquisition of other illnesses, since the HIV virus fights and causes the destruction of CD4 cells, these being the cells which make up the human immune system. Fewer CD4 cells make it more difficult for the immune system to protect the body against infections and the development against some cancers (Abdool Karim et al., 2017).

The presence of HIV has been linked to increased risks for conditions such as Kaposi's sarcoma (Casper, 2014), cancerous masses in the body's lymph nodes and organs that are characterized by purple lesions on the skin (Greenberg et al., 1985; Rodríguez et al., 2014); non-Hodgkin's lymphoma (Quesenberry & Castillo, 2015), a cluster of blood cancers that emerge in the body's lymphatic system; cancer of the lung (Mani & Aboulafia, 2014); hepatocellular

carcinoma (Berretta et al., 2014); anal cancer (Grulich, 2014); and Hodgkin's lymphoma (Tosato, 2014). Other cancerous conditions include lymphoma in the central nervous system, diffuse large B cell lymphomas, Burkitt lymphoma, multicentric Castleman's disease and lung cancer (Yarchoan et al., 2014). Although more common in other countries, some HIV medication regimens that include protease inhibitors can cause patients to acquire an iatrogenic metabolic syndrome (HIV-lipodystrophy syndrome) which has been known to increase the risk for cardiovascular disease (Barbaro et al., 2009). Adjunct, yet equally important complications also include depression, stress, helplessness and intense loneliness due to the feeling that the prospect of finding sustainable and meaningful relationships is reduced, based on a positive HIV diagnosis (Adams et al., 2015; Kalichman, 2003). These consequences of HIV infection may lead to other health-related conditions, such as hypertension and clinical mental health symptoms.

2.2.1 Diagnosed HIV Infections in MSM Between 2010 and 2015

MSM identifying as Caucasian or white realized a 0.29% decrease in the number of diagnosed HIV cases in the United States, decreasing from 22.4% of total cases in 2010 to 22.1% in 2015. While this decrease represents progress among this demographic group, African American and Hispanic MSM saw increases in their percentage share of HIV cases in the United States over the same period. Those MSM identified as African American or black accounted for 14.8% of diagnosed cases of HIV in the U.S. in 2010 and the group accounted for 16.9% of diagnosed cases in 2015. The latter statistic represents an increase of 2.1%. MSM identifying as Hispanic or Latino experienced a 1.7% increase in diagnosed HIV cases between 2010 and 2015. In 2010, Hispanic or Latino MSM accounted for 10.9% of diagnosed cases and in 2015, this group accounted for 12.6% of diagnosed cases of HIV.

These figures further illustrate the profound significance of this disparity. Were it simply the case that a proportionately larger number of black or African American MSM were living with HIV/AIDS when compared to the population as a whole, and had the number of cases remained roughly stable, that might point to historic factors now understood and under control. By contrast, the fact that this group has seen an increase in the number of cases among its members, while the number of cases in the broader population has declined, starkly illustrates the countervailing trend towards greater levels of transmission and a problem which is of increasing severity. As noted above, any normative assumptions made by clinicians on the basis that HIV incidence is declining would be unsafe in the context of this specific subgroup. Clearly, a particular and targeted approach is necessary to both understand and respond to this outlying trend.

2.2.2 HIV Status and Its Implications for African American MSM

Stereotypes continue to surround people who fall into this priority category and, as noted above, the data bears these out only to the extent that HIV is disproportionately prevalent among the group. The reasons include a prevalence of low SES, instability of lifestyle, cultural reluctance to report healthcare concerns, low health-literacy and poor environmental conditions, but whatever the reality a widespread perception exists which blames members of this group for the AIDS epidemic. The consequences of this perception include its being shared by those who self-define as African American MSM, representing a further stressor impacting on their mental health (Wilson et al., 2014).

The association between poor mental health (linked to stress) and the probability of engaging in high-risk behavior among HIV-positive African American MSM was examined in a study by Wilson et al. (2014) which concluded that, “during times when participants felt less

depression and greater well-being than usual, risk episodes were less likely to occur" (p. 683). Studies of this type underscore the case for taking a holistic approach to healthcare provision which recognizes the inter-related nature of the various stressors and behaviors observed among this sub-group and the wider population. The fact of living with HIV is likely to have a negative impact on a subject's mental health which will only be further exacerbated if they feel stigmatized and unable to access relevant treatment. In this case, even those subjects taking antiretroviral medication might be dissuaded from seeking psychological support due to cultural factors associated with stigma and compounded by cost and accessibility. The absence of psychological support would then increase the subject's vulnerability to undertaking high-risk behaviors which might lead either to the onward transmission of HIV or to the development of co-morbidities potentially including poor cardiovascular health.

In their survey of public health responses to the HIV epidemic among African American MSM, Wilson and Moore (2009) refer to "cultural competency" (p. 1016) as a key tool for healthcare professionals. This umbrella term could refer to fluency in a language other than English or (more subtly) to familiarity with culturally-specific vernacular. An appreciation for particular sensitivities associated with this population sub-group would also fall under this definition. The authors of this study claim that cultural competency "facilitates prevention efforts, and a lack of it is a barrier" (Wilson & Moore, 2009, p. 1020), a claim which points to its importance for developing effective new policy.

Cultural competence must also extend to include the family unit and domestic setting. Wilson and Moore (2009) recorded subjects in their survey referring to increased self-esteem and positive self-concept as important components in a holistic approach to healthcare for African American MSM living with HIV. These remarks correlate with the race conscious and

potentially complex relationship to their sexual orientation already discussed, and suggest that interventions may need to take place in cases where men have been ostracized from their family and peer group on account of any one of these three factors: their ethnic identity, their sexual identity and their HIV status. For men who lack supportive networks of this kind predominantly black (and often de facto self-segregating) churches can provide an alternative framework for emotional support, yet research suggests black churches in the United States are frequently involved in reinforcing stigma directed at homosexual relationships and HIV-positive status (Wilson et al., 2011). Members and leaders of these churches are likely to have high levels of cultural competence, and are therefore potentially valuable contributors to a holistic interventionist approach; however, as the authors acknowledge, this depends on mobilizing them to support African American MSM who are HIV-positive and to recognized the impact of their public statements and behaviors directed towards such men.

Wilson et al. (2011) examined the case of black churches in New York City and identified a disparity between the language of love and acceptance and the impact which certain doctrines have on African American MSM parishioners who are HIV-positive. Despite these criticisms, they identify in the very same doctrines, “a potential springboard for open dialogue about harm reduction in sexual encounters” (Wilson et al., 2011, p. S240), a remark which reinforces this paper’s contention that churches and faith groups represent an important piece in the puzzle, and a potentially valuable one for supporting those with low self-esteem and contributing to improvements in their mental health and a reduction in the allostatic load they bear.

2.2.3 Historical HIV Deaths Among Ethnic Minorities

Largely in consequence of the disproportional spread of new HIV infections across the population, African Americans now account for nearly half (43%) of all inhabitants of the United States living with the virus, and the same group accounted for 44% of HIV-related deaths in 2015 (Centers for Disease Control & Prevention, 2017c; Henry J. Kaiser Family Foundation, 2018). HIV-related death rates are disproportionately greater in number among the subgroup of African American MSM, and this high mortality rate has remained relatively unchanged over the past 17 years. In 2000, the HIV-related death rate for MSM identifying as African American or black was 35% and the rate for those identifying as white was 51%. In 2005, the HIV-related death rate for MSM identifying as African American or black was 35% and the rate for those identifying as white was 46%. Five years later, in 2010, the HIV-related death rate for MSM identifying as African American or black was 33%, which represented a slight improvement when compared with 2005 levels, and the death rate among white MSM was 44%, representing a modest decrease. For 2015, the HIV-related death rate for African American or black MSM was 32%, while the rate for white MSM was 45%, representing a 1% decrease for African American or black MSM and an equal percentage increase among white MSM. Overall, since 2000, the annual HIV-related death rate among African American or black MSM has decreased a mere 2%, and the rate among those identifying as Hispanic or Latino has increased by 3% over the same time period. The annual HIV-related death rate among white MSM has decreased by 6% from their 2000 levels.

While the more recent uneven distribution of HIV-related deaths may be alarming, it is important to note that disproportionality in HIV/AIDS-related deaths has persisted since the crisis began. The first official reporting of the deadly condition now known to be AIDS

described 100% of the five affected patients as gay men (Centers for Disease Control & Prevention, 1981). In 1995, African American or black persons accounted for 12.7% of the U.S. population (U.S. Bureau of the Census, 1995); however this group accounted for 49% of AIDS-related deaths among persons between 25-44 years old, with AIDS being the leading cause of death at the time (*A Timeline*, 2016). The reduction in the number of AIDS-related deaths between 1995 and 1998 occurred at a much more rapid rate for white Americans than for African Americans, with the number of AIDS-related deaths declining by 34% among white Americans in a single year (1995-1996) and declining by just 16% for African Americans during the same period. In the following year, the number of AIDS-related deaths among whites declined by 51%, more than halving, while the death rate for African Americans declined by only 35%.

The literature reveals other significant patterns of health disparities among ethnic groups—particularly to the determinant of African American and Hispanic individuals—in terms of HIV infections. In 2010, the CDC estimated that 835,860 individuals in the United States had been diagnosed with HIV. The population of African Americans in the United States was 13% at the time; however, 41.3% of all persons diagnosed with HIV were identified as African American. While individuals identifying as Hispanic or Latino comprised just 15.9% of the country's population, 21% of persons who had been diagnosed with HIV identified as Hispanic or Latino. Individuals identifying as Caucasian or white made up 78.9% of the population; however only 32% of those who had been diagnosed with HIV identified as Caucasian or white. Further differences are illustrated by analyzing the difference in the number of cases of HIV infection among women identifying as Caucasian or white (4.22% of all HIV cases in 2010) compared with African American and Hispanic women. The differences between the number of Caucasian or white women who were living with an HIV diagnosis and those identifying as

African Americans or Hispanic were 878.7% and 397.6%, respectively. These are staggeringly large figures which underline the profound nature of the disparity.

A review of the 2015 data demonstrated that not much had changed in terms of this disparity over the preceding five year period. Persons identifying as African American continued to comprise just over 13% of the population, yet they accounted for 41.4% of total HIV infections, a 0.1% increase since 2010. Those identifying as Hispanic or Latino comprised 17.2% of the United States population, however this demographic group accounted for 21.9% of the total HIV infections and this share represents a 0.9% increase in comparison with 2010 statistics. Total infections among Caucasian or white Americans decreased 1.1% during the same period of time, with Caucasian or white females accounting for 3.99% of all diagnosed HIV infections and Caucasian or white men accounting for 26.92%. These statistics represent decreases of 0.23% and 0.89%, respectively.

2.2.4 Prevention of HIV

A variety of options exists for preventing the transmission of HIV within the population, and each option is associated with various affordances and constraints relating to user preference, accessibility and affordability. Safer sexual practices, predominantly through the use of condoms, present a relatively inexpensive or, in many cases, free option. In fact, condoms are almost ubiquitous across the United States, available in local health clinics, pharmacies and organizations like colleges of further education and community centers. While this method of protection is widely available to potential users, latex sensitivity makes condoms a less than ideal option for men who might otherwise use them. In addition, some men may identify reduced penile sensation associated with increased penile sensitivity thresholds as the chief reason that they refuse to wear condoms (Hill et al., 2014). Another option for absolute prevention of the

spread of HIV is abstinence from sexual activity—a prevention method that greatly limits one's exposure to potentially infected bodily fluids capable of transmitting the virus. While this method may be the most effective, it is not practical for the state nor the health and social services sector to rely on it, since many sexually mature persons view engaging in sexual contact as a function of basic human need and an expectation of entering into and remaining in romantic relationships.

Healthy sexual communication could be a prevention method, because it can facilitate open discussion of topics such as sexual histories, sexual preferences and HIV/STI statuses. However, the effectiveness of this method of prevention is mediated by misrepresentation that may occur in the communication process. That is to say that there is no way to verify that a given individual will articulate accurate and complete details surrounding their sexual past, including their HIV/STI testing habits and results. In fact, misrepresented sexual history information during sexual communication may be one of the most frequently blamed causes of HIV acquisition in the United States.

Since July 2012, upon the Food and Drug Administration's approval for Truvada to be used prophylactically against the transmission of HIV, the drug has been prescribed to individuals at high risk for acquiring HIV. In a study preceding the approval for the drug to be used prophylactically—namely the iPrEx study—thousands of MSM were provided with Truvada to be taken daily while the remaining participants were provided with placebos and the results showed that new infections of HIV were reduced by 44% for those taking Truvada, compared to the MSM who were given the placebo. Effectiveness among those adhering to the instructions for taking this medicament > 90% of the time was 73% (Liu, 2014). These data would appear, on the face of it, to significantly alter the paradigm when it comes to the challenge

of reducing new HIV infections exponentially among all individuals; however, MSM identifying as Hispanic/Latino have only experienced a single year of reduced new infections in 2013 and rising new diagnoses each year since. Moreover, those MSM identifying as African American/black have experienced an increase in the number of new diagnoses each year after PrEP (pre-exposure prophylaxis) was made available for prevention.

In responding to these findings, it is important to evaluate why such an effective prevention method has failed to have the same positive effect in the minority community that has been demonstrated in the majority of the population. According to the data, white MSM have continued to realize steady decreases in the number of new HIV diagnoses since 2008, a phenomenon undoubtedly abetted by the availability of PrEP, but the inclined increases for African American/black and Hispanic/Latino MSM have remained unabated since its approval.

Like all of the prevention methods discussed thus far, PrEP has its constraints, particularly in the minority community. The first and most immediately limiting of these factors is the cost of maintaining a regular intake. A 30-day supply of Truvada has a retail value of between $1,672.61 and $2,005, rendering it cost-prohibitive for individuals without health insurance. Having access to health insurance benefits is a major influence on one's access to and utilization of preventative services, and there is a significant volume of evidence that having access to health coverage (i.e. being covered by a third party payer) is positively correlated with increased likelihood of having a stable relationship with a primary care physician (Andersen, 1995) and being more compliant with preventative measures suggested, supplied or prescribed by that physician (Wollinsky & Johnson, 1991). Lack of financial means may be at the root of many individuals' reluctance to access PrEP, but this often coincides with limited awareness either of the availability or efficacy of the medication. Despite extensive attempts to educate the

public about HIV prevention and treatment a significant number of Americans still indicate a lack of medical literacy in relation to the condition and are frequently surprised to be diagnosed with HIV, despite engaging in high risk sexual practices.

Secondly, there is widespread recognition that persons identifying as African American/black or Hispanic/Latino are less likely than those identifying as Caucasian/white to have health insurance (Williams et al., 2015), a limiting factor which creates a barrier to procuring Truvada for HIV prevention. Despite the passage and full implementation of the Affordable Care Act, over half of African Americans in the United States live in the states that have chosen not to expand their Medicaid programs, an action made optional by the U.S. Supreme Court in June 2012. In those states, individuals can only qualify for Medicaid coverage if they meet very narrow criteria, such as being pregnant, being a young child, or being disabled or elderly. Adults with children who face abject poverty at levels well below the poverty line may qualify, but childless individuals do not. In some instances, African Americans residing in states that have chosen not to expand their Medicaid programs in support of their uninsured residents may earn too much to qualify for the Medicaid program but they may not earn enough to qualify for the subsidies offered under the Affordable Care Act, which makes essential coverage incredibly expensive and, in practice, unaffordable for those caught in the "coverage gap" (Rowland, 2016, p. 580). Additionally, there is significant variation in health insurance coverage, in that not all policies that provide essential coverage will consider Truvada to be medically necessary for prophylactic use. Next, it has been well established that health literacy among African American/black and Hispanic/Latino persons is lower than that found among Caucasian/white persons, leaving these minority patients ignorant of the fact that this drug is available to them for use in this manner (Ali et al., 2018, p. 2).

Another barrier to Truvada being accessed and used reliably exists for at-risk minority MSM and relates to shame (Wang et al., 2017). African American/black MSM—particularly those who are MSM/W (bisexual)—commonly describe themselves as heterosexual and may be less likely to disclose to their medical providers the fact that they are sometimes sexually engaged with other men. Lack of full disclosure prevents clinicians from appreciating the full landscape of these patients' risk factors and as a result they may not engage effectively in patient education relating to HIV or PrEP. The final challenge which this study will examine involves individuals being exposed to strains of HIV that are resistant to Truvada, the only medication approved for use prophylactically against the transmission of HIV.

2.3 Health Disparities

2.3.1 Health Disparities That Affect Health Outcomes in American Society

It is widely known that an additional layer of complexity exists for African American and Hispanic MSM when predicting or projecting health outcomes. Males who fall into these sub-groups of the population typically find it difficult to engage in meaningful male-male relationships and develop adaptive patterns of relational partnership during their youth and adolescent years. While young MSM may find themselves sexually attracted to other males, they may not have the opportunity to learn appropriate ways to express that interest and/or negotiate relationships or sexual boundaries in male-male relationships. The classic case involves a situation in which young minority men remain closeted about their sexual interests, only sexually engaging in the most covert and secretive circumstances, fearful of the pervasive ostracism that might be realized should family members, community members and compeers who have a bias against homosexual relationships learn of their preferences. For such men, their priority focus might well be on concealment and survival rather than on engagement in safe sexual practices.

This cultural context is an essential starting point for policymakers, but its causes are not straightforwardly expressed. It is important to understand that reticence to develop and openly express male-male sexual and romantic relationships has developed against a background of race-related differentiation in healthcare and health outcomes in the United States of America stretching back decades.

2.3.2 Historical Research about Health Disparities

Beginning in the 1990s and developing his theme across a series of publications, David Williams has made the case that, while racial and ethnic characteristics have routinely been used to stratify data about health outcomes and practices in the United States of America, the application of terminology attaching to these characteristics has been notoriously inconsistent (Williams, 1994). The potential result of this poor coordination among medical professionals and regulators is that terms like *African American*, *black*, *Hispanic* and *people of color* do not necessarily refer to the same characteristics in different items of research literature. Consequently, certain stereotypes about behaviors and vulnerabilities associated with racial or ethnic characteristics may have emerged for which there once appeared to be supporting evidence, however that evidence must now be called into question. Williams notes that, "racial and ethnic status has been shown for a long time to be an important determinant of health services utilization in the United States" (Williams, 1994, p. 261), but also identifies "a long, and at times disturbing" (Williams, 1994, p. 262) history which attaches to the study of racial characteristics in a medical context. Importantly, Williams recognizes that *race*—historically construed as a purely physical demarcation—is now understood to be socially constructed to a much greater degree than was previously thought (Cooper & David, 1986; Williams, 1994, p. 262). This development problematizes much of the earlier literature connecting race with

inherent physical vulnerabilities or predispositions (e.g. to the contracting of HIV). For Williams, there are at least two major difficulties associated with the inconsistent categorization of medical data according to *race*; the first is that it presents a misleading picture of prospective health outcomes and the second is that it disguises actual health outcomes, as he explains through the case study of infant mortality, which, were it coded consistently at birth and death, would have lowered the infant mortality rate for whites while raising it for blacks, Native Americans, Chinese, Japanese, Filipinos, and Hispanics according to a study conducted in the early 1990s (Hahn et al., 1992). This evidence suggests that the disadvantageous health outcomes sustained by members of these minority ethnic groups may, in fact, be much more extreme than had been previously realized. This is a consistent problem when analyzing the extent of health disparities in the United States. The federal nature of the country is also a contributory factor, since different race-related terms can be applied with different medical connotations depending on the policy of individual states and private healthcare providers.

This is not solely a problem associated with the historical interpretation of statistical data. In another paper published in 1994 Williams and his colleagues set out their thesis that "Race is an unscientific, societally constructed taxonomy that is based on an ideology that views some human population groups as inherently superior to others on the basis of external physical characteristics or geographic origin" (Williams, 1994, p. 26). The implications of this claim are profound: that the medical research community in the United States of America manifested systemically racist attitudes towards diagnosis and treatment as recently as the 1990s. The authors illustrate how deeply ingrained these problems are while also making an early plea for an intersectional approach (Williams et al., 1994, p. 31). They are deeply critical of the habit

evinced by earlier researchers of failing to recognize that genetic variation is typically greater within racial brackets than when comparing across races (Williams et al., 1994, p. 34).

In addition to recognizing that prejudicial approaches have been systemically ingrained in United States healthcare since records began, modern studies of race and medicine have also concentrated on the interrelated phenomena of unconscious bias and confirmation bias (Williams & Rucker, 2000). Citing evidence from the social sciences, Williams and his colleagues chart a change in the way racism has manifested in the United States "from a blatant 'Jim Crow racism' to a subtler 'laissez-faire racism'" (Bobo et al., 1997, p. 15; Williams & Rucker, 2000, p. 78). In some ways, this form of discrimination is more pernicious among academics because it frequently goes unnoticed and is therefore harder to identify and retrospectively address. Because "much discrimination today occurs through behaviors that the perpetrator does not subjectively experience as intentional" (Williams & Rucker, 2000, p. 79) the research community has been slow to recognize that it plays a part in exacerbating the negative bias in health outcomes for African American and Hispanic citizens, a bias which is perhaps most profoundly observable in relation to rates of HIV infection and instances of new infections within an ethnically defined sub-group. In short, the belief that biases are subjective may encourage researchers to overlook their objective impact as measured in relation to health disparities.

Part of the difficulty pertaining to tracking health outcomes in relation to race derives from the means by which relevant data is obtained, analyzed and interpreted. Among the most vital but arguably least reliable statistical sources is the Census, which provides a helpful overview of self-reported racial and ethnic status and the distribution of certain population sub-groups within the United States. Researchers have commented on the shortcomings of the

Census, however, including its failure to provide comprehensive data. These problems are more acute when attempting to map trends in health outcomes among multiracial respondents (Williams & Jackson, 2000). It has been observed that race is often a “proxy” (Williams & Jackson, 2000, p. 1730) for social factors which either advantage or disadvantage an individual with respect to health outcomes. In this context, data which tracks the experience of children of white mothers and black fathers in contradistinction to those with black mothers and white fathers is potentially instructive. The metric becomes still more challenging when surveyors attempt to account for multiple generations of multiracial families.

The Unites States has a particularly fraught history with race and racism, and this has been a contributory factor to the development of a vocabulary which is at least as political as it is biological. The present framework according to which doctors and bureaucrats in the United States assign and describe race has developed reactively in response to the Civil Rights movement, immigration and an evolving vernacular for polite discourse. Distinctions between biology and social self-definition are frequently elided, as in the recent case of Rachael Dolezal who defined herself as African American without manifesting any of the hereditary characteristics associated with membership of this group. The historical habit of using terminology which relates to race without establishing a common framework for how it should be applied in scholarly and medical contexts has led to a circumstance in which a new, revised, more intersectional vernacular is increasingly desirable (Williams, 1999, p. 176).

The term *allostatic load*, coined by McEwen and Stellar, has been suggested as a measure potentially more useful than race in assessing population vulnerabilities and likely health outcomes (McEwen & Stellar, 1993; Williams, 1999, p. 185). However, the present consensus also stresses the continuing utility of recording data on race and, in particular, the distribution of

ethnic minority groups across the United States and the correlation between the ethnic make-up of a given area and local health outcomes (Williams & Jackson, 2000). Data used to measure and describe racial variation is potentially misleading, but it still captures important trends more explicitly than other suggested metrics, and therefore remains intrinsically valuable for policymakers and medical professionals attempting to redress these longstanding differentials in health across the population.

2.3.3 Sexual Health Disparities

Sexual health is frequently considered among the more challenging subjects for researchers insofar as it is impacted by cultural, learned and inherited behavioral trends, and it can be difficult to distinguish the pathology of poor sexual health on the basis of race, ethnicity, gender, culture and SES. Nevertheless, anecdotal accounts abound of a sense of shame associated in the African American and Hispanic communities with diversity of sexual practice and sexual orientation. The relationship between health and the experience of bring MSM, homeless, incarcerated, and belong to an ethnic minority (specifically being African American or Hispanic) is currently being more widely studied, and the results are likely to have significant implications for developing a public policy agenda which will effectively address ethnically delineated health disparities in the United States.

2.4 Racial Discrimination

2.4.1 Being an African American MSM at the Present Time

African American MSM are and should continue to be regarded as a priority population when designing public policy, educational programs and medical interventions to address negative health outcomes in the United States of America. Although not monolithic, the challenges faced by men who belong to this demographic sub-group are widely evidenced and

take a variety of forms. The relatively high risk of coming into contact with HIV, of living in sub-optimal neighborhood conditions, of sustaining or being affected by periods of incarceration and of subsisting in a low SES domestic environment combine to present particular challenges to African American MSM, many of them shared by Hispanic MSM and members of other ethnic minority groups. Due to a widespread cultural reluctance to engage in well-informed dialogue with young African American MSM, including children and adolescents, a poor standard of health literacy correlates positively with black American heritage. This is one of several factors which has led to the promulgation and circulation of behavioral stereotypes to which vulnerable MSM feel the need to conform. These stereotypes involve engaging in high-risk behavior, a tendency exacerbated by daily stressors which trigger an elevated risk of hypertension.

Overt racism is a phenomenon long linked to poorer health outcomes for those affected by it, but race consciousness and anticipatory stress are increasingly understood to be similarly deleterious in effect, particularly over the long-term (Lewis et al., 2015). These attitudes are frequently entrenched in the family setting, but enhanced by the de facto racial segregation which characterizes the majority of large United States cities. Social and civic institutions including churches can potentially mitigate these aggravating factors, but are often associated with ingrained reluctance to accept and support MSM as full members of the community. African Americans are born into a country in which their circumstances are still closely bound up in the history of enslavement, while MSM, far from living in a post-prejudicial world are regularly required to conceal, defend or recant their sexual preferences. To be simultaneously African American and belong to the sub-group of MSM renders you vulnerable to all of the above challenges. Solutions to these challenges will need to be intersectional, tackling both the cultural burden and the physical and psychological health consequences of manifesting these

characteristics. The data clearly identify African American MSM as a priority population and remedial, interventive healthcare is long overdue.

2.4.2 Racial Discrimination and Racial Segregation

All of the phenomena examined so far contribute to the research community's growing understanding that a relationship exists between race and health outcomes which is nuanced and complex. Moreover, discrimination—whether overt or implicit—functions to entrench and exacerbate the differences in likely health outcomes for individual Americans. Yet for all that this has become clear in recent years, a consensus has yet to be reached on the most productive way of measuring discrimination, an essential precursor to developing public policy aimed at preventing or addressing it.

One difficulty for researchers revolves around the need to differentiate between the subjective experience of discrimination and the measurable consequence of it. As noted already, categories defined by race are statistically useful, but *race* itself is not a static or wholly understood descriptor. Insofar as *race* is known to be socially determined, *racism* might be thought to reside in the eye of the beholder. The challenge facing medical practitioners and researchers is therefore to define in a clinically useful way how discrimination manifests itself and how precisely it is linked (in its various forms) to health outcomes (Williams et al., 2003).

One practical distinction may be made between the experience of acute discrimination, centered on a specific moment in time or incident, and chronic discrimination of the structural sort which pervades American society (albeit in ways which are often locally different from one another). In their analysis of how discrimination has been measured and assessed in recent studies, Williams et al. (2003, p. 204) note that approaches have varied and there is not yet a plausible model for measuring the long-term impact of discrimination over an individual's life-

course. They conclude their analysis by remarking that, “the subjective experience of racial bias may be a neglected determinant of health and a contributor to racial disparities in health” (Williams, 2003, p. 206). This is a potentially useful observation for future studies to build on, but the challenge of mapping how these subjective experiences correlate with individual health over time remains unsolved. In common with a number of studies produced in the 1990s and 2000s, the authors of this paper recognize the insufficiency of historical models without yet being in a position to propose a more effective psychometric replacement.

2.4.3 Perceptions of Discrimination

One recent study which does attempt to correlate the perception of having been subjected to discrimination (chronic and/or acute) against health outcomes took as its sample not the United States population but a representative group of South Koreans (Kim & Williams, 2012). Given the relative racial homogeneity of South Korea when compared to the United States, this study concentrated on differences expressed across genders, but the methodology used and conclusions drawn reflect the direction of travel within the broader field of social science and suggest relevant approaches for the United States context. Acknowledging the demographic breakdown within South Korea, the authors note that “Although South Korea is widely viewed as a ‘one-ethnicity’ country without racial discrimination…discrimination based on other social statuses occur in South Korea and that these self-reported experiences of discrimination were significantly associated with poor self-rated health” (Kim & Williams, 2012, p. 4). These findings once more point to the necessity of an intersectional approach which has been historically lacking when trying to infer the appropriate public policy and diagnostic practices from Census data in the United States. The findings present a number of challenges in relation to the self-reported origin of the data. If discrimination is a purely subjective phenomenon then it

will be much more difficult to design preventative strategies; however, if the experience of suffering discrimination can be linked to an individual's belonging to a demographic group in which other members routinely self-report similar experiences then a coherent policy approach becomes more achievable.

Another point to which this study draws attention is that intersectionality necessarily requires a holistic awareness that different nations diverge with regard to the ways in which their populations manifest discrimination. As noted above, the United States has never been racially homogeneous, and our particular history of slavery and migration requires that medical and political leaders develop a particular sensitivity to entrenched disadvantages associated with race. One 2006 study found that black men in the United States were twice as likely to suffer from hypertension if they fell into a low socioeconomic bracket (James et al., 2006). A similar connection between chronic kidney disease and SES among African Americans was recorded in 2010 (Bruce et al., 2010). Compounded by the observation made above that most measures of SES do not compare like with like, we can infer that the experience of materially poor black men is more parlous in the United States than it might be in a country without our particular history of racial division and discrimination. It is likely that something of a vicious circle exists whereby the expectation of being discriminated against will exacerbate the stress caused by the experience of being discriminated against. This is a cultural as much as a medical challenge, and an interdisciplinary approach and solution should therefore be sought.

Interdisciplinary co-ordination is complicated because of the prevalence of different and often mutually incompatible analytical approaches and policies concerning the interpretation of data. Duncan et al. (2002) note that data relating to SES is not routinely collected in the United States and, even where it is collected, it often goes unreported. This lack of consistency with

regard to data has already been highlighted, but its importance cannot be easily overstated since it underlines all the assumptions and inferences which govern federal and state approaches to health and social care (two sectors increasingly perceived as mutually interdependent). Once again, historical methods have been shown to be inadequate in changed social conditions, so that the relevance of an individual's current or most recent job to their sense of economic security is no longer as reliable a predictor as in the twentieth century due to the casualization of working and employment practices (Duncan et al., 2002, p. 1151).

When considering the proposition that not only discrimination but also the perception of discrimination has a bearing on health outcomes, it is instructive to consider the phenomenon of race consciousness—that is, the frequency with which an individual thinks about his or her racial characteristics and the level of importance which he or she assigns to race as a component of identity (Brewer et al., 2013). Much of the literature cited so far has focused on hypertension because it is clearly more prevalent among black Americans than among other sub-groups of the population, yet the author noted in a 2013 paper that African Americans who suffer from hypertension are also significantly less likely to adhere to an antihypertensive medication regime than white sufferers of the condition (Brewer et al., 2013, p. 1346). Their research links this lack of compliance with the instructions of a physician to race consciousness, arguing that, "perceived discrimination and individual reactions to it may have a direct impact on BP" (Brewer et al., 2013, p. 1347) and that "there is also ample support for an indirect influence on BP through effects of perceived discrimination on patient adherence and the patient–physician relationship" (Brewer et al., 2013, p. 1347). In short, then, this is a multivariant challenge for doctors since the perception of discrimination (both conscious and subconscious) coupled with the reality of

discrimination (both consciously and subconsciously inflicted) both have a bearing on health outcomes.

One striking observation made by Brewer and her colleagues is that there was a negative correlation not only between race consciousness and compliance with antihypertensive therapy among African American subjects but also that the same correlation existed among white subjects. They posit that this may reflect a sense of guilt connected to the theory of Racial Privilege (Brewer et al., 2013, p. 1350). In any event the study demonstrates that race consciousness can inhibit positive health outcomes regardless of the subject's race, and this can once more be related to the contention that race is socially determined. This component of the study presents a new challenge for the policymaker in that it is plainly not sufficient simply to teach race consciousness in schools and communities and then expect that health outcomes will improve as a consequence; race consciousness is only one piece of the puzzle, and clearly comes freighted with some predispositions towards negative behaviors.

2.5 Social Determinants of Health

The individual's place in American society, assessed in socioeconomic terms, has always been regarded as a major factor in determining health outcomes for that individual. Social elements that impact upon health include economic status, educational attainment, community access, and environmental exposure (i.e. neighborhood and built environment within which an individual resides, works and socializes). Notwithstanding the historic disparities on the basis of race, described above, social determinants play perhaps the largest single role in enabling diagnosticians to predict an individual's prospects for living a long and healthy life.

Since Ancient times, the link between material deprivation and low health outcomes has been recognized, if not always understood. However, in recent decades research has begun to

characterize SES in more nuanced ways which reflect not only the material wealth or poverty of an individual subject, but also recognize that educational background, economic stability and health literacy play a role in refining our analysis of that individual's likely health outcomes. One major area of interest is stress (linked to hypertension and disproportionately so among African Americans), which tends to exacerbate vulnerabilities in those who suffer from it. Stress can be connected to social and economic experience, such that the experience of traumatic life events, including marital breakdown, experiencing a miscarriage, losing one's job or being mistreated, can have a measurably detrimental impact on health. It follows that individuals whose ethnicity, sexuality or other non-normative status makes them more likely to experience certain manifestations of trauma are therefore more susceptible to poor health outcomes not directly traceable to poverty.

Social stigma can be a key factor leading to poor health among marginalized groups. A lack of willingness to solicit healthcare support or a lack of confidence in the discretion of physicians can lead to conditions like HIV going undiagnosed and unmanaged. The lack of access to resources such as the Internet can also be regarded as a form of deprivation which makes individuals vulnerable despite occupying otherwise privileged positions in the social hierarchy. In short, as the intersectional analysis in the previous section of this paper made clear, singling out one cause of intra-United States population health disparities is impossible; in order to generate proactive solutions it will be necessary to recognize the interrelationship between race, social determinants and public policy.

2.5.1 Socioecology

Cultural barriers to the receipt and provision of high quality healthcare are often associated with racial and ethnic background, but gender can be a compounding factor. The

present study is particularly concerned with the case of African American and Hispanic MSM, among whom a narrower set of cultural values may be identified when compared with women and men who have sexual relationships with women only. A recent study identifies a healthcare culture based on women's health and "traditional masculinity scripts" (Marcell et al., 2017, p. 402) as part of a discourse from which many young urban minority males feel excluded. In part this may be a consequence of poor health literacy within this group, but it is likely that such a claim is too reductive. Men used to a culture and environment based on presentation and perception are likely to resist being explicitly or apparently grouped with women or with other men who do not conform to traditional standards of masculinity. These concerns with presentation are likely to influence their willingness to disclose sensitive medical data to doctors and may therefore reduce the frequency and timeliness of any treatments they receive.

2.5.1.1 Health in Social and Community Contexts

A study specifically concerned with the impact of school based health centers (SBHCs) reported in 2016 that, "Because SBHCs are commonly implemented in low-income communities and communities with high proportions of racial and ethnic minority populations, this source of student health care may be a prominent means of advancing health equity" (Knopf et al., 2016, p. 123). These conclusions further underscore the emerging consensus that effective healthcare interventions are typically local, community-oriented, and focused on children and young adults with a view to establishing positive behavioral trends in later life. This report synthesized a number of earlier studies and reflected their emphasis on the disproportionately high levels of stress, hypertension and anxiety which typically manifest in ethnic minority populations (Knopf et al., 2016, p. 115). Among the implications of this point is the notion that community-based interventions are able to target these chronic and underlying predispositions more effectively.

The authors make explicit the link not only between access to an SBHC and better health outcomes, but also between having such access and experiencing improved performance at school. Since educational attainment is a predictor of positive future outcomes with respect to health (Qu et al., 2016) the effectiveness of these centers is twofold.

In the same way that centers and other interventions of this kind can respond directly to high levels of stress, they are equally well situated to account for the prevalence of high-risk behaviors like smoking which manifest more commonly in African American and Hispanic communities (Courtney-Long et al., 2016). The other advantage of establishing structures to support and improve health literacy at a local level is that they can engage with and reflect both the ethnic make-up and SES of the community. Frequently the factors which influence risk and vulnerability in a given community are sufficiently complex that a broad, nationwide approach would struggle to account for and balance these accordingly. Studies of communities with specific needs and circumstances suggest that there is no single panacea. A 2015 report on the Imara program, designed to reduce the risk of HIV and STI transmission among juvenile African American detainees recognized that even within such a narrowly defined population the risk factors varied too substantially for a single interventive approach to suit all the subjects (Davis et al., 2015).

Imara was developed to be an evidence-based behavioral HIV risk reduction program (Davis et al., 2015, p. 32), but in practice encountered several logistical challenges associated with the prison environment and the transience of inmates. Reflecting again the importance of local and readily accessible sources of health education and healthcare, the authors noted that, "Many girls [who participated in the study] had never received sexual and reproductive health services outside of the detention facility, did not have a 'clinic home,' or know where to access

these services" (Davis et al., 2015, p. 36). Given that the results of the intervention did include improvements in self-efficacy and a higher likelihood of using mitigators of sexual risk (e.g. condoms), it would be reasonable to speculate that earlier and more convenient access to healthcare and sexual health clinics, as well as early efforts to increase health literacy among this population would have further positive implications for reducing the risk of exposure to HIV and STIs. There are sociopolitical implications to these findings, since the American population has been historically skeptical of the federal—or, indeed, state—government taking on the role of providing sex education in loco parentis. Surveys like this one, however, have focused on programs delivered in limited and very specific environments (juvenile detention facilities) where parents are absent from their children's daily experience and the case is more easily asserted that the authorities have an obligation to act in their behalf.

One element of healthcare and health literacy which community intervention is uniquely situated to address is the social stigma still attached to certain practices in ethnic minority communities in parts of the United States. Cuca et al. (2017) note that a specific stigma continues to attach to African American women living with HIV, noting their negative self-image scores, and it seems clear that self-perception of this kind is linked to emotional and mental health, both co-morbid factors which can determine a deterioration in physical well-being. Stigma is also asymmetrically reported across the United States on account of the variety of local cultural approaches to such subjects as homosexual identity and transexuality (Cramer et al., 2017). Adults in care are another group within which the stigma of living with HIV is particularly acute (Baugher et al., 2017), and for whom targeted individual or community interventions are likely to present a more effectively differentiated route to better health outcomes than a blanket national strategy. Indeed, each of these case studies reinforces the point that while centrally-

motivated and coordinated approaches to improving healthcare have been successful for the general population over the past two centuries, the cost has been an increasingly wide gap between the majority and certain vulnerable minority communities whose precise needs have not historically been targeted.

MSM are disproportionately vulnerable to stigma-motivated behaviors which pose a threat to their health and well-being (Balaji et al., 2011). These behaviors might be their own or those of others. Internalized stigma has been identified as one factor which correlates with the regular practice of engaging in anal sex without the use of a condom. In one study, 32% of the 9819 MSM surveyed reported having experienced verbal harassment in the past 12 months, while 23% of the same group had experienced discrimination and 8% physical assault (Balaji et al., 2011). These behaviors reflect the prevalence of stigma relating to both homosexuality and being HIV positive, and participants in the study reported that they related in a low mood and declining mental health. Once again, recent case studies suggest that targeted interventions which recognize the local community context are likely to be the most effective. In Alabama, where 70% of new HIV cases manifest among African American men, one study suggests that the role of the black church in the state might be pivotal in combating the prevailing stigma (Aholou et al., 2016; Murray et al., 2017). There is also evidence which characterizes the accumulation of stigma-motivated experiences with ever-increasing vulnerability to practicing high-risk behaviors which expose an individual to the greater likelihood of contracting HIV or another STI (Kaplan et al., 2016).

Like MSM, African American women are a group whose experience of healthcare and whose likely health outcomes relate directly to their community experience and their history of suffering discrimination. Once again, researchers who have focused on the experience of his

demographic group conclude that "Implementing culturally tailored interventions may improve African American women's health outcomes" (Prather et al., 2016, p. 9). This more focused approach which promotes interventions that take place within communities is the most frequently cited solution in the recent literature and reflects a consensus that a one-size-fits-all approach to these entrenched challenges of racism, internalized stigma and overlapping social determinants is simply exacerbating the gap between the majority of Americans and members of these minority groups when assessing health outcomes.

The stigma which particularly attaches to African American MSM may be reflected in the language used within this sub-group of the population to express sexual orientation. The emergence of the term *down low* to describe African American MSM who reject the terms *gay* and *bisexual* may be evidence of reticence which such men have to associate themselves with groups historically subject to discrimination, not least from within the African American community (Rutledge et al., 2018). This historic experience may be characterized as "community trauma" (Seth et al., 2017, p. 353) which has been identified as a predictor for high-risk behaviors including drug use, sexual sensation seeking—sometimes associated with *party and play* or *chemsex*, the consumption of drugs to stimulate a sexual encounter—and a large number of sexual partners (Seth et al., 2017). Incarceration, whether of oneself or fellow members of one's ethnic sub-group might also be regarded as community trauma, again associated with a higher risk of HIV acquisition (Wise et al., 2017).

The classic challenge with designing interventions to operate at a community level is that *community* is difficult to define. Individuals do not always identify in a readily predictable way as members of specific communities and may, in certain circumstances, define themselves against what they perceive to be the core values and habits of such groups. Nevertheless, the

weight of evidence supporting localized community-based interventions necessitates that researchers continue to focus on refining these definitions and continue to recognize community in all its various manifestations as a key determinant of health outcomes (Braveman et al., 2011).

2.5.2 The Socio-Cultural Experience of African American MSM: A Priority Population

African American MSM are vastly over-represented among people with HIV/AIDS (Rutledge et al., 2016, p. 157). Despite making up just 14% of the United States population, and despite the fact that the total proportion of gay and bisexual men in the United States is around 2% (Purcell et al., 2012), this population sub-group accounted for 32% of new HIV diagnoses in the United States overall in 2010 (Rutledge et al., 2016, p. 157). These statistics alone suggest a particular propensity to contract HIV among African American MSM, but related research suggests that the extent and variety of negative health outcomes for this sub-group is significantly more extensive. The experience of being an African American MSM is not monolithic, and due attention should be paid to variations within this demographic, not least in terms of SES. Nevertheless, the present paper argues that this population should be made a priority for healthcare interventions and changes in public policy designed to promote more equitable health outcomes and opportunities for Americans that are not perceived to, and do not in fact, discriminate on the basis of racial or ethnic heritage or of sexual orientation.

2.5.2.1 Sexual Identity

Terminology is important and nuanced when examining the African American MSM experience. As already noted, the category of MSM extends to those who self-define as heterosexual or who use terms like *down low* to describe their sexual orientation. Some cultures of "black sexuality" (Rutledge et al., 2016, p. 161) are conditioned by the view that the differentiating factor between heterosexual and homosexual men is not intercourse but kissing or

showing public affection. The position one takes during intercourse can also be regarded as important in terms of self-definition and self-perception (Rutledge et al., 2016, p. 161). There is a persistent indication in recent studies that ethnic, masculine and sexual identifiers can generate confusion or conflict for African American MSM who may, for instance, associate homosexuality with femininity and therefore describe their sexual preferences in a vernacular which is at odds with that used in predominantly white male contexts (Wilson, 2008). The prevalence of HIV within this population sub-group and the stigma associated with HIV positive status may compound the unwillingness of some African American men to describe themselves as homosexual or bisexual. This study has noted already that sexual behavior in specific environments (e.g. prisons and juvenile detention centers) is often at variance with how an individual conducts themselves in general. In keeping with this view, some studies identify various categories of bisexual behavior including "transitional" (Stokes et al., 1998, p. 103) – men who adopt a bisexual label to ease their progress from thinking of themselves as heterosexual to self-identifying as homosexual, "experimenters, opportunity-driven-men, and men with dual involvement" (Stokes et al., 1998, p. 103), being equally drawn to both men and women in a long-term sense.

This complex picture reinforces the imperative for those setting public policy to recognize the diversity within the African American MSM community. Stereotypes and assumptions—for instance, in relation to the view that African American attitudes towards masculinity are universal and unnuanced—are at odds with the evidence accumulated by sociologists, yet these same attitudes continue to underlie medical approaches in contemporary America. Such assumptions often relate to the relatively higher incidence of HIV among African American MSM when compared to white or Latino MSM, yet the evidence suggests that this is

not, in fact, a consequence of higher risk behaviors manifesting among African Americans (Millett et al., 2006) meaning the cause must lie elsewhere and is perhaps more closely connected with SES, disproportionate rates of incarceration and environmental stressors.

A study of adolescent attitudes towards sex in the United States recorded that, "for almost all participants, families were the primary source of both information about condoms and of condoms themselves" (Rosenberger et al., 2010, p. 400). If we extrapolate from these findings the general view that the family remains the key source of information in relation to low-risk sexual practices then it follows that cultural constraints are particularly significant as they apply to the family setting. Conservative attitudes towards homosexuality are evident in the apparent reluctance of many African American MSM to explicitly identify as homosexual or bisexual and these attitudes reflect a wider reluctance within families to accept that their adolescent male members might have non-heteronormative sexual orientations. An interventive approach would need to carefully accommodate the sensitivities of these families while ensuring that the health literacy of young men—a key determinant of health outcomes—is not compromised by a reluctance to discuss sex and sexuality in the domestic context.

Sampling the wider LGB population has long been a fraught process, not least on account of the difficulty researchers face navigating the subject of self-definition. Not all people are sexually active nor sexually satisfied, and these axiomatic observations lead to the conclusion that many people are not presently engaged with their sexual orientation at any given moment. Like race consciousness, awareness of sexual orientation is a more prevalent defining experience for those in a minority sub-group, and these sub-groups are therefore the most active in developing new vernaculars which do not necessarily correspond with widely accepted sociological terminology. In the same way that questions of defining a suitable sample trouble

researchers they also pose challenges for subjects of studies who—as noted above—may be uncertain about their sexual orientation or in a transitional phase (Meyer & Wilson, 2009, pp. 23-24). Sampling African American MSM is made all the more difficult on account of a limited willingness to self-report as MSM for cultural and stigmatic reasons.

2.5.3 The Effects of Economic Stability of Public Health

The casualization of work—a consequence of the so-called *gig economy*—has accelerated in recent decades. The links between wealth and health are well documented, and it is increasingly well understood that differences in wealth between different racial groups are typically more extreme than differences in income (although public policy is still built primarily around the central revenue generator that is income tax, effectively enshrining the problem in law). A cursory reading of the data, which correlate poor health with low income, might assume that poor health comes first, leading to long periods of unemployment or inhibiting an individual's career progression. This would seem to account for the trend but in fact this "reduce causal" (Braveman et al., 2011, p. 387) relationship seldom manifests in practice—rather, it is those on a low income who subsequently develop complications in their personal health. The change in working habits, whereby individuals are less likely to progress within a single employment but instead tend to move between employments over a working lifetime is also a factor. As noted above, instability in lifestyle and environment are among the factors which drive propensities towards high-risk behavior. In the case of an individual whose home life is interrupted by poor health and/or a period of incarceration, the difficulties which he or she is likely to experience in obtaining secure employment following this period of disruption could well contribute to that same individual taking additional risks which impact their health.

Recent studies have identified links between financial insecurity (rather than income) and such phenomena as the prevalence and transmission of HIV among women in the United States (Frew et al., 2016); the likelihood of developing both chronic and terminal kidney disease (Banerjee et al., 2017); and intimate partner and/or sexual violence (Breiding et al., 2017). Because decades of public policy have concentrated only on income or measurable wealth (as opposed to security) these findings potentially re-frame the discussion around proactive treatment. There is also a racial dimension to consider, which is frequently seen to compound existing vulnerabilities such as disability (Courtney-Long et al., 2016).

The importance of differentiating between wealth and economic stability is underscored by research which shows that—for instance—the provision of housing assistance to economically disadvantaged individuals positively correlates with their improved health and well-being (Fenelon et al., 2017). The measurement of economic stability poses a considerable challenge, since its effects are psychological and physiological, manifesting as stress and symptoms like hypertension respectively. To simply associate fluctuating income levels with economic instability may not be especially revealing, given that income can fluctuate for many reasons (changes in personal circumstances being the most obvious) and does not, in and of itself, necessarily reflect a sense of personal anxiety. In order to develop policy, it will become necessary to better understand the relative importance of economic stability when measured against other factors known to contribute to poor health, and the reasons why different people are more or less susceptible to its impact on their health.

Researchers frequently observe that positive trends in heath among certain demographic groups are not reflected in how members of those groups feel about their own health. In part the problem may be methodological, with one study suggesting that the English word *fair* used in

relation to health is differently interpreted by first-language Spanish speakers compared with monoglot or first-language English speakers (Viruell-Fuentes et al., 2011). Research of this type illuminates the nuances which comprehensive policy-making must recognize in responding to persistent heath disparities. There is also likely to be a cultural dimension to how economic stability is understood within different sub-groups of the population. For some, the criteria for feeling *stable* will be readily achievable while others will set less plausible goals. This cultural disparity is likely to ensure that stress levels vary across sub-groups, meaning that a like-for-like comparative study is difficult to structure. Whereas much research identifies itself as concerned with either physical or psychological health, an integrated approach will be necessary when addressing the issue of economic instability.

As noted above, one circumstance likely to cause or prolong such instability is a period of incarceration. Labor laws and employer preference frequently conspire to exclude those with a criminal record from a range of more lucrative employments, and periods spent in jail reduce an individual's opportunity to progress in a trade or craft. Because the interrelation between crime, drug use and poverty leads to the repeated incarceration of many offenders, ex-convicts are likely to experience significant fluctuations in their financial circumstances and will find their economic futures difficult to plan. This generates a sense of lacking control which, in turn, may exacerbate stress or encourage high-risk behaviors.

2.5.4 How Education Contributes to the Community Health Conversation

Health literacy is a key component in generating positive health outcomes. Limited exposure to high quality education is likely to make a person less literate in general and also less confident in negotiating the medical system. As noted already, membership of particular ethnic minority groups (and at-risk sub-groups within those communities, such as MSM) positively

correlates with low SES and vulnerability to poor educational outcomes. A number of studies have proposed targeted interventions which respond to this inequality by establishing health centers in communities where African Americans and Hispanics make up a high proportion of the local population (Hahn et al., 2016; Ran et al., 2016).

There are two sides to the question of how education contributes to divisions along ethnic lines in access to and effectiveness rates of healthcare. First, the broader point is that education tends to empower individuals to think critically, challenge and interrogate medical advice and stereotypes they might encounter, and present themselves and their concerns articulately. Second, however, it is important to consider the access which individuals have at an early stage to formative advice on safe healthcare practices such as safe sex, good hygiene and how to recognize the signs and symptoms of various conditions and the appropriate action to take when these manifest. Teaching of this sort often occurs in the home, but is less likely to be delivered by adults who are themselves limited in terms of health literacy. Schools and colleges also provide some education on the subject of personal healthcare, but the quality of these curricula vary. Because the United States does not have a national approach to education, subjects like the practice of safe sex are more likely to be a priority for particular school districts, and these are not always located in areas with high populations of low SES students.

On-time high school graduation is one of the indicators for better health outcomes in later life, and this goes some way towards accounting for the fact that such outcomes among African Americans and Hispanics are generally lower, given the fact that belonging to these ethnic minority groups correlates positively with the likelihood of being of lower SES than white Americans (Qu et al., 2016). Among the reasons frequently cited for failure to complete high school is pregnancy, and rates of teenage pregnancy are historically higher among ethnic

minorities (specifically, once again, African Americans and Hispanics). A recent study reports that the proportion of teenage pregnancies in the population is now declining, however, and that the steepest decline is recorded as having taken place within precisely these same ethnic minority groups (U.S. Department of Health & Human Services, 2016). The authors report that the birth rate among 15-19 year old African Americans fell by 44% during the period surveyed (2006-2014), while among Hispanics in the same age bracket it fell by 51%. They attribute this improvement to community-level interventions which might include the local health centers alluded to above and better practice in prioritizing health literacy, especially in the contexts of populations where cultural practices may historically mitigate against the use of contraception, for example.

2.5.4.1 Health Literacy: Understanding Health Services

As already noted, there is a clear distinction between literacy and *health literacy*, with the latter referring to a given individual's knowledge of how best to access the support and healthcare which will facilitate the best outcomes in their particular case. This might range from basic sex education which supplies information about preventing the transmission of STI's and the manifestation of unwanted pregnancies, to a more detailed comprehension of the Affordable Care Act and the ways in which different components of the United States healthcare system relate to one another. The general trend is that greater health literacy correlates positively with better health outcomes, since patients are typically able both to employ preventative behavioral strategies and to react quickly if they find themselves exposed to infection or injury.

Part of the deficit in education which is more prevalent among African American, Hispanic and low SES individuals is due to a difference in the level of health literacy across the population. This might be attributable to differences in English language fluency, the varying

quality of schools and the cultural differences which lead some school districts to restrict health education such that programs such as 'abstinence-only' sex education are more prevalent in some parts of the country than in others (specifically in the South). Wherever interventions are designed to target this deficit in health literacy they have been shown to be effective, particularly where the subject relates to reducing the rate of HIV infections in the population (Alonzo et al., 2016). In some cases, poor health literacy is not only an expression of the lack of information but also of the presence of inaccurate or misleading information. This is the complaint of those presently campaigning for more widespread vaccination of children, and it also applies in relation to the proper use of antiretroviral drugs to control the spread of HIV/AIDS. One detailed study notes that disparities in adherence to an antiretroviral regime were not measurably present when comparing white with Hispanic subjects, however, both groups were more consistently adherent than African Americans, an observation which the authors attribute, in part, to lower health literacy among this latter category of subjects (Beer et al., 2016).

Early years education clearly plays an important part in the communication of health literacy to a new generation. Researchers looking at this subject note that a collaborative approach is important, recognizing that children typically draw on multiple sources of information and emphasizing the importance of ensuring that what they are told at school, at home, by pediatricians and by other adult mentors is coherent and conveys a common message (Bitsko et al., 2016). The study points to the value of what its authors term a "medical home" (Bitsko et al., 2016, p. 221) which associates a child with a named doctor who is in a position to work collaboratively with parents who manifest various difficulties from mental ill-health to substance abuse to poor health literacy. Situating a child of such parents in a collaborative

environment where they form a bond of trust with healthcare workers from a young age can substantially improve their health literacy and generate more optimal outcomes in later life.

Among adults, we have already noted the potentially positive effect of being supported in developing health literacy by community organizations like a church. Research recognizes, however, that spirituality and religious observance can constitute either an advantage or a barrier to health literacy depending on the specific case (Carrico et al., 2017). There is always a concern that religious proscriptions of such behaviors as homosexual intercourse and anal sex may cultivate internalized stigma which, in turn, predicts poorer health outcomes. There is also the risk that information disseminated by spiritual leaders is imbued with a particular kind of authority which might cause it to exert greater influence on religiously observant subjects than secular medical education. Additionally, the uneven distribution of health centers around the country can be a factor in ensuring that vulnerable individuals whose religiously observant families reject the use of contraception struggle to obtain contraceptives for themselves and subsequently engage in unprotected sex. Whatever the moral implications—which do not fall within the remit of this paper—the prevalence of this pattern clearly indicates a need for more evidence-based sex and health education leading to higher rates of health literacy.

Intersectional research points to the cumulatively debilitating effect of identifying as a member of multiple stigmatized groups in the United States when calculating health outcomes. Transgender women of color, like African American MSM, are a particularly vulnerable group. In one survey of 227 subjects who fall into this group, 49% reported having participated in unprotected anal sex within the past twelve months. Coupled with the fact that HIV is disproportionately prevalent in this sub-group of the population, this practice is undoubtedly high-risk (Denson et al., 2017). In the same way that studies such as this reflect the negative

consequences of socioeconomic vulnerability and, in many cases, low health literacy, there is also a body of literature which recognizes that the current trend is a positive one, with rates of new diagnoses of HIV among African American women having declined in the past decade (Ivy et al., 2017). Thus there is evidence for the difficulties faced by vulnerable groups at greater risk of exposure to HIV and STIs, but also evidence which positively suggests that by improving the SES of people belonging to such groups it is possible to reduce this risk. Health literacy is an important piece in this puzzle, since improving health literacy can have positive emotional and psychological benefits as well as a physical impact (Koenig et al., 2016).

2.5.5 The Relevance of Gender

In the same way that race has historically been understood as a biological phenomenon and is now being interpreted more diffusely as a product—in whole or in part—of social factors, so gender is being similarly redefined to distinguish it from biological sex and recognize that it, too, can be correlated with discriminatory trends in healthcare provision and health outcomes. As with the historical data which relates to race, part of the challenge facing contemporary analysts is that when they attempt to identify trends linking gender to health the data they rely on have not been gathered in a systematic or consistent way. Williams refers to "the nonequivalence of measures of SES across race and ethnicity" (Williams, 2002, p. 591), an instructive phrase which concisely summarizes the problem. At a public policy level, Williams demonstrates that disparities of wealth stratified by ethnicity are much larger than disparities of income, and this might be related to the impact of a system of income (rather than wealth) taxation which, in turn, affects material circumstances and has a consequential impact on health outcomes. Through a careful discussion of the data, Williams dissects how small differences in earnings between black and white women at various levels of education *mask* much larger disparities between men when

measured across racial sub-groups (Williams, 2002, p. 592). He further demonstrates that women in African American households, both historically and contemporaneously, shoulder a larger part of the financial burden for the running of those households than do women in white households, although their income in real terms is likely to be smaller than that of the equivalent (male) breadwinner in a white household. This case is instructive because it again reflects the need for more intersectional analysis which recognizes phenomena such as implicit or systemic bias, the long-term debilitating effect of microaggressions and the problematic impact of relying on data which masks real differences in SES by focusing only on one aspect of an individual or household's demography.

An analysis of data measuring the relative disadvantage in health outcomes experienced by men when compared to women indicates that men experience poorer outcomes in all SES groups, however the poorest men tend to suffer relatively greater disadvantages when compared to the poorest women (Williams, 2003, p. 724). This study notes that these disparities are especially marked among African Americans, with low SES men who belong to this demographic being the single most consistently disadvantaged gender/ethnicity-defined group in terms of health outcomes. Much recent research has examined stress and hypertension as indicative of poor health outcomes more generally and contributory to a long process of declining health. Williams notes that stress is often exacerbated by a sense of poor performance or underachievement in a professional context, and further observes that Western culture socializes men to associate most closely with high economic expectations of themselves (Williams, 2003, p. 726). Again, there is evidence for a close link between SES and membership of an ethnic minority group (specifically black or Hispanic), due to the systematic exclusion of such men from high status occupations which has its roots in America's foundation and remains

inconclusively resolved today. Williams (2003, p. 726) also cites the trend towards lower job security as disproportionately disadvantageous to black and Hispanic men, due to their being over-represented in professions where the casualization of work is advancing most rapidly.

Stress and socialization may be initiating factors which lead to poor health outcomes, but their impact is frequently exacerbated by a tendency to rely on alcohol and drug use which can be predicted based on data relating to gender and race. The studies demonstrate that, while African American adolescents have a lower tendency to engage in binge drinking and substance abuse compared with white and Hispanic teenagers, once mature African Americans begin these practices they tend to engage in them for longer and with more deleterious effects (Williams, 2003, p. 726). Once again, gender plays a part in masking or illuminating this trend, depending on how the data is gathered and interpreted. Men are more likely than women to engage in serious substance misuse over a sustained period, and therefore African American men experience the highest levels of negative health impacts associated with this phenomenon.

2.6 Mass Incarceration

2.6.1 The Social and Psychological Consequences of Mass Incarceration

In addition to the still widespread public perception that African American MSM are likely to be HIV-positive and that this status is likely to be a consequence of their own high-risk behaviors, a similarly damaging stereotype persists around the nature of the crimes for which African American men are most frequently incarcerated. Subliminal racism finds its natural counterpart in subliminal race consciousness and heightened anticipation of race-related violence. Being both African American and non-heteronormative in terms of sexual orientation and/or practice exacerbates this subliminal sense of threat. Regardless of whether a given individual who falls into the category of African American MSM has a personal or family

history of incarceration, the narrative which states that this is likely has become so ingrained in wider society that it serves to disadvantage him in several ways, precipitating negative health outcomes. Individuals may experience the incarceration of a close friend or family member, which may cause them to be viewed (or think themselves to be viewed) with an eye of suspicion by others in their community or beyond. This period of incarceration is also likely to put the relationship under strain and may lead to family breakdown, itself a stressor on an individual and any dependents (Wildeman & Wang, 2017, p. 1469).

Other ways in which the recent trend of disproportionately high incarceration of young, black, low SES men affects the wider population who share those characteristics include community-wide health deterioration linked to "high prevalence of asthma, sexually transmitted infections, and psychiatric morbidity" (Wildeman & Wang, 2017, p. 1470). Individuals raised in these communities are consequently more vulnerable to poor health regardless of their own absence of criminal convictions. More broadly, the concentration of high-risk behaviors in prisons impacts on incarcerated persons such that their release back into their communities is seldom without friction. There is a danger that growing up in such communities leads to future incarceration become a self-fulfilling prophecy based on low self-esteem and a subliminal psychological association between rites of passage into adulthood and time spend in prison.

If a history of incarceration—whether of self or close associates—is one predictor for high risk behavior which disproportionately affects African American MSM then others include drug use, having sexual relations with a partner met online and participating in group sex events (Wilson et al., 2008). These situations are more likely to involve individuals with low self-esteem and low health literacy. Analysis of 100 HIV-positive MSM demonstrated a negative correlation between having discussions about safe sexual practice and engaging in high-risk

behaviors (Wilson et al., 2008, p. 507), which in turn suggests that communities and cultures which discourage discussions of this sort are indirectly contributing to lower health outcomes for MSM who belong to them.

2.6.2 Mass Incarceration and Sexual Health

Mass incarceration is another culture-bound challenge for African American or Hispanic citizens. Described by some researchers as a “growing crisis” (Harawa & Adimora, 2008, p. 57), the rate of incarceration for African Americans increased by 400% between 1980 and 2008. Since that point the gap between the number of white Americans and African Americans in prison has been steadily reducing: at the end of 2017, federal and state prisons in the United States held about 475,900 inmates who were black and 436,500 who were white (Gramlich, 2019). Despite this positive recent trend, it is notable that there is still a larger total number of African Americans incarcerated than of whites, despite African Americans making up just 13.4% of the total United States population, compared with the 76.6% of Americans who are white (U.S. Census Bureau, n.d.). The relatively high prevalence of high-risk behaviors among black Americans was noted above, and this corresponds with the observation that United States prisons are environments conducive to encouraging such behaviors (Harawa & Adimora, 2008). HIV-positive people of any ethnicity are generally regarded as at risk for incarceration relative to the wider population, with 20-26% of this group incarcerated at some point each year (Harawa & Adimora, 2008).

The case is often made that incarceration can form part of a vicious circle, wherein individuals who are vulnerable to adopting high-risk behaviors are exposed to an environment in which these are commonplace and therefore they begin to manifest such behaviors with increasing frequency (Shrage, 2016, p. e2). It should also be noted that a history of incarceration

affects not only individuals but also their subsequent sexual partners. There is also a psychological strain placed on relationships which may not survive the term of incarceration, leading to a greater likelihood that, upon release, the individual concerned will seek to develop new romantic and sexual partnerships which may be less stable than those in which they were previously involved. In terms of the transmission of HIV, it is important to note that the category MSM is not identical with sexual orientation, but rather describes behavior, thus someone who self-defines as heterosexual but who nonetheless engages in sexual relations with another man (consensually or otherwise) may be classified as MSM and therefore at greater risk of contracting HIV. This observation reflects and compounds the challenge associated with race consciousness outlined already: a given individual's own sense of their racial identity and sexual orientation may not always tally with the data collected about them by doctors responsible for their treatment. Single sex environments may exacerbate the transmission of HIV, including among self-defining heterosexual men. Shrage (2016) notes that insular sexual networks which are ethnically homogeneous ensure that African American women are also increasingly at risk of contracting HIV because of the relatively high proportion of African American men with a history of incarceration.

The vicious circle phenomenon is further compounded by the detrimental effect which a history of incarceration has on an individual's employment prospects. This, in turn, may increase the likelihood of a given individual turning to high-risk behaviors which negatively impact his or her family life. SES is often linked to health literacy, and a lack of education about safe sexual practices, combined with the risk of HIV-transmission linked to needle-sharing, tattooing and other behaviors associated with prison culture (including contact with unsterilized equipment) will further increase the risk of infection (Harawa & Adimora, 2008). Researchers typically link

the increase in the prison population globally to prohibitionist policies associated with drug use (Das & Horton, 2016, p. 1032), but whereas this approach may isolate the most at-risk communities for a short period, it also ensures their release back into wider society in a context which is likely to increase transmission rates. This is the consequence of treating the HIV/AIDS crisis as a criminal rather than a healthcare matter during the last decades of the twentieth century, and the burden of this has fallen disproportionately on ethnic minorities. This is a political choice, and ultimately that is the proper domain for it, but it is equally proper that analysts explore the implications of this choice for those affected by it.

Beyrer et al. (2016, p. 1035) take issue with the view that the threat of prison sentences effectively deters criminal behavior, especially in relation to illicit drug taking and sex work—both practices which significantly increase an individual's vulnerability to HIV. They note the relatively high prevalence of both practices among socioeconomically deprived sub-groups of the population, and link this back to race and ethnicity. They further observe that the practice of mass incarcerations is a particularly American one, with one quarter of the world's prisoners incarcerated in the United States. These comments are supported by Rubenstein et al. (2016), who link "better health outcomes [to] human rights and dignity" (p. 1212). They argue that shame and stigma are concentrated in communities subject to historic discrimination, and that rather than reducing these prejudicial experiences the so-called War on Drugs has exacerbated them. Wildeman and Wang (2017, p. 1465) point out that the United States was not historically an outlier in terms of the proportion of the population it routinely incarcerated until the institution of this policy in the mid-1970s . Since that time, they argue, the sense of vulnerability to accusation, conviction and incarceration among ethnic minorities—principally African Americans and Hispanics—has increased. Their paper again makes explicit the link between

ethnic identity, level of education and probability of incarceration. They note that, “Incarceration has become common for poor men from ethnic minorities. 2.8% of (non-Hispanic) white men born in the late 1960s and 20.3% of (non-Hispanic) black men from the same cohort spent time in prison by their 30s” (Wildeman & Wang, 2017, p. 1466). The scale of this disparity is striking, and the authors demonstrate how it has a pervasive social impact on communities where knowing someone with a history of having done prison time is commonplace, and therefore the expectation that others within your peer-group will undergo the same experience becomes ingrained.

Compared with the non-incarcerated population, prisoners experience significantly higher rates of transmission of infectious diseases including HIV, hepatitis C and tuberculosis. Evidence for incarceration having a negative effect on the mental health of inmates is less well established, but this is largely due to the lack of studies assessing this—arguably itself the product of a policy approach which has failed to note the significance of race, incarceration and the transmission of infectious diseases until recently (Wildeman & Wang, 2017, pp. 1467-1468). Despite these challenging circumstances, some researchers have emphasized the opportunity which concentrating the population of those infected with a disease might provide were penal policy to be significantly revised. Dolan et al. (2016) remark that, the “prevalence of HIV, HCV, HBV, and tuberculosis is higher in prison populations than in the general population, mainly because of the criminalisation of drug use and the detention of people who use drugs” (p. 1089) and contend that, “The most effective way of controlling these infections in prisoners and the broader community is to reduce the incarceration of people who inject drugs” (Dolan et al., 2016, p. 1089). This is a common theme in the literature, with a consensus emerging that drug use—and particularly that which involves potentially contaminated needles being shared—is a key

component in explaining the asymmetrical distribution of infectious diseases, notably HIV, in the population.

In brief, then, African Americans and Hispanic Americans are more likely to be incarcerated in the United States than white Americans. Prisons are environments optimally suited to the transmission of infectious diseases, notably sexually transmitted infections (STI's) including HIV. The mode of transmission will vary, but the high concentration of inmates living with these conditions, coupled with the high levels of drug use and other risky behaviors are conducive to the onward transmission of these infections which then become more prevalent across the sexual networks to which inmates return on their release from custody (Dolan et al., 2016, p. 1099). The view that a more austere regime of prohibition would restrict drug use and high-risk behavior in prisons, thereby improving health outcomes for inmates, has been challenged by the observation that the limited availability of drugs in prisons simply increases the likelihood of sharing needles and other unsafe practices (Kamarulzaman et al., 2016, p. 1117). Additionally, far from eliminating the habit of drug taking among inmates, one study from the UK discovered that as many as 25% of drug users first developed the habit in prison (Boys et al., 2002). This is likely to create additional complications and reduce the probability of effective rehabilitation taking place when an inmate is returned to the community. The need to access drugs to service an addiction is frequently linked with an increase in high-risk behavior including unsafe sexual practices, particularly among women (Kamarulzaman et al., 2016, p. 1118).

Incarceration is one in a network of factors which positively correlate with a high incidence of HIV positive status and high rates of HIV transmission within the African American community. A closely related factor is lack of access to stable housing. One study found that

African Americans who had both a history of incarceration and a history of unstable housing were significantly more likely to have more sexual partners and more unprotected sexual intercourse in a given period than African Americans who did not meet these criteria (Widman et al., 2013). The authors presented a structural analysis, arguing that poor and unreliable housing exacerbates the prevalence of high-risk behaviors in a similar way to incarceration, and that experience of both compounds this problem. They propose a proactive rather than a reactive policy approach which targets specific sub-groups of African Americans who are of low SES and have a history either of personal or familial incarceration. Other studies conducted in recent years have reached similar conclusions (Ricks et al., 2014), but public policy has not yet shifted substantially in favor of endorsing their recommendations. Groves et al. (2017) considered the question of whether a common history of incarceration shared by both parties in a committed relationship would further compound the vulnerability of either or both partners to high-risk behavior, and specifically the practice of unprotected sex. The study concluded “that dual incarceration is associated with inconsistent condom use, which is one marker of HIV risk” (Groves et al., 2017, p. 3555). Research of this type is increasingly common, generating a more detailed picture of how incarceration relates to sexual practices.

Data increasingly supports the emergent consensus that the reason African Americans (and especially certain sub-groups including MSM and those with a history of incarceration) manifest and transmit HIV at disproportionately high rates is not biological but rather social. SES and culture-bound behaviors play a role, and effective policy making would specifically target these areas. Reducing the disproportionate number of African Americans currently incarcerated in the United States would likely help to further reduce and control the spread of HIV and STI’s. Historically, however, health disparities have arisen because of an unwillingness

to translate this understanding into policy. As more studies emerge to underscore the causal links between socioeconomic disadvantage and vulnerability to poor sexual health, it is to be hoped that governments will take action to generate social solutions rather than assume a biological explanation for the health disparities which the data do not justify.

2.7 Effects of Neighborhoods and Communities on Public Health

Segregation is a complex phenomenon. While extreme forms such as Apartheid and ghettoization have not been features of American history, the pervasive influence of the slave trade endures in our culture. States, cities, towns and neighborhoods are not infrequently divided along racial and ethnic lines, and officials have often struggled to determine the extent to which these divisions are coincidental, desirable and porous. Once again, race may be a proxy for SES in urban environments where the cost of housing varies significantly, and it is unsurprising, on the face of it, that members of less economically prosperous demographic groups tend to congregate in areas where housing is more affordable. The term *segregation* has negative connotations in the popular press, but for sociologists its precise meaning is: the degree to which two or more groups live separately from one another in a geographic area (Massey & Denton, 1988). The segregation of black Americans is disproportionately high and shows little sign of reducing at the present time (White et al., 2012, p. 1279). The physical location of individuals within an urban environment, as well as their ability to travel conveniently from place to place, has implications for preventative, diagnostic, therapeutic and palliative care. While financial circumstances are one factor in determining the quality of healthcare an individual receives, geography also matters in that the accessibility of hospitals, sexual health clinics and doctors' surgeries will either improve or reduce the likelihood of receiving timely care. Additionally, the extent to which these facilities are oversubscribed, as well as the quality and affordability of the

service they provide, will influence decisions which individuals take about the frequency with which they attend and seek medical advice. A related consideration is the availability of high quality schooling in the local area which teaches health literacy and provides for strong educational outcomes overall, a predictor of better health in the long-term.

In order to understand segregation it is necessary to identify and measure it, but this presents a series of methodological challenges. Formal measures of segregation are conceptualized using five geographic patterns: evenness, exposure, concentration, centralization, and clustering (Massey & Denton, 1988), but securing reliable date for assessing these can be challenging as it is difficult to take account of those with unstable housing—a phenomenon more commonly seen among African American and Hispanic United States residents, as discussed above. Similarly, residential habits vary such that members of certain demographic groups are more likely to stay in one place for a longer time, thus skewing the figures. It is also difficult to achieve nuance when gathering data using these metrics. As White, Hass and Williams point out, "Conceptually, racial/ethnic composition may not capture the complex process of racial inequality, because it does not account for the racial clustering of the population or other characteristics like neighborhood boundaries or proximity to other neighborhoods" (White et al., 2012, p. 1287). Just as stability of employment, and the terms in which we measure this, is changing on a generational basis, the utility of large-scale data-gathering with respect to the concentration of particular demographic groups has its limited.

At the neighborhood level, certain localized factors are important in affecting health outcomes, and many of these are similarly difficult to measure. An extant body of literature examining the relationship between psychosocial factors like unstable employment or personal relationships and health has long been established, (Brondolo et al., 2003; Kaplan & Nunes,

2003; Markovitz et al., 2004) but until recently less work has been done to identify the environmental factors (many of them chronic) which exacerbate these patterns. Living in a neighborhood with high crime rates is an indicator for elevated stress. By the same token, poor access to healthcare and the means for healthy living (e.g. healthy food; unpolluted outdoor spaces) have implications for individual health (Mujahid et al., 2011). Quality of housing is also a factor—both in the move obvious sense that the presence of dangerous substances such as asbestos or vulnerability to damp and the degradation of infrastructure represent risk of harm—and insofar as cramped conditions and a lack of good quality facilities for preparing food and maintaining a high standard of hygiene can be directly linked to poor health outcomes. Once again, the link between low SES and members of the African American and Hispanic population sub-groups ensures that the negative effect of living in such conditions is disproportionately felt by such persons.

Mujahid et al. (2011) conducted a study which concluded that "cross-sectional associations between race/ethnicity and HTN [hypertension] were reduced after accounting for chronic stressors at the neighborhood level" (p. 193). The obvious implication is that the trend of data suggesting higher rates of hypertension among African Americans, in particular, can be linked to the living environments which many of these subjects share. Sub-standard housing and prolonged exposure to stressors—which here include the *walkability* of the neighborhood, a measure of safety on the streets—might be examined through the lens of holistic healthcare provision in much the same way as drug use and high risk sexual behavior. Defining neighborhoods for this purpose is also a fraught topic, with some sociologists preferring *egocentric* demarcations (Duncan et al., 2012, Duncan et al., 2014) which reflect the view of residents as to where districts begin and end—a view, they argue, which supersedes

administrative boundaries and is more reflective of lived experience. This argument for self-definition clearly links to the discussion about race consciousness which demonstrates that physical and psychological well-being are linked with self-perception to a greater extent than was understood in past decades.

As noted already, there is a plausible link between long-term exposure to environmental conditions which restrict health outcomes and increased tolerance and/or proclivity for high risk behaviors which exacerbate this trend. If vulnerability is “The propensity of social or ecological systems to suffer harm from external stresses and perturbations” (Kasperson et al., 1995, p. 1) then individual subjects may be said to experience increasing vulnerability as the quality and stability of their environment declines. deFur et al. (2007) have argued that a new approach is needed for risk assessment which takes into account cumulative factors, including those of an environmental nature, that act subliminally to generate new vulnerabilities and exacerbate existing tendencies. Their intervention reflects the difficulty in accounting for subliminal factors relating to health disparities, but they productively stratify these into four groups: household factors (e.g. marital strain), community factors (e.g. crime), institutional factors (e.g. quality of local schools), physical conditions of the neighborhood and social conditions (e.g. behavior). This last category is particularly complex and difficult to account for in terms of data-gathering. For all the challenges, however, their analysis effectively calls attention to factors which entrench health disparity and frequently go unreported.

Concentrating on behavioral dynamics, Duncan et al. (2016) note spatial clustering for the use of tobacco, alcohol and marijuana in Boston among adolescents. Since segregation is a feature of life in this city, it is important to note their conclusion that “neighborhood environments with high rates of neighborhood poverty have been found to be associated with

higher prevalence of drug use" (Duncan et al., 2016, p. 8), reinforcing the argument which links high-risk behaviors such as drug use with low SES, lower health outcomes and, particularly in large cities, with race.

Boston is a frequently cited case study for Duncan and his colleagues. A separate paper discusses recreational space and its availability (measured in density) for residents based on ethnic background. The paper concluded, "black neighborhoods in Boston were less likely to have recreational open spaces, indicating the need for policy interventions promoting equitable access" (Duncan et al., 2013, p. 618) which may reduce disparities in obesity. This recommendation again relies on understanding a correlation between environmental circumstances and health. The implication is, once more, that physical location (all the more important for low SES individuals whose scope for travel is likely to be restricted) entrenches health disparities. This may be either a result of supply (i.e. high rates of drug use in the local community; availability of drugs; a culture of drug use) or absence of supply (i.e. of recreational spaces which are deemed safe for use and which are accessible).

Health outcomes in later life often depend on the availability, quality and use of hospice care. Once again, a case study conducted recently demonstrates a disparity between the use of hospice care by white subjects compared with African American and Hispanic subjects. Subjects in this study were cancer sufferers, many of them at an advanced stage. The study concludes that, "Among individuals dying from cancer, those who live in minority neighborhoods are less likely to receive hospice care than those who live in predominantly white neighborhoods" (Haas et al., 2007, p. 399) and goes on to suggest that this is attributable in part to difficulties with language comprehension and communication; cultural reticence to make use of the hospice system; and a lack of health-literacy which is particularly pronounced in predominantly non-white

communities. There is also a suggestion that religious differences (or the perception thereof) between patients, domestic caregivers and doctors may play a role.

An individual's environmental experience influences all aspects of their life and health—from intangible psychological factors like mood to frequency and quality of healthcare receipt. Because segregation along racial lines is so entrenched as to have become a part of the cultural and physical identity of many United States cities the likelihood of the disparities it provokes resolving themselves without intervention is low. Some of the challenges faced by those living in predominantly African American and Hispanic neighborhoods are characteristic of the local culture and behavioral patterns—e.g. the prevalence of crime, local sensitivities and drug use—whereas others derive from the infrastructure of the local area, accessibility of high quality schools and hospitals, local levels of pollution and local support for those who use English as an additional language.

2.7.1 The Built Environment

At its most basic level, the physical environment poses risks to an individual's physical health based around the quality of buildings and infrastructure and the materials from which they are made. Quality of living environment has direct consequences for the health of those who live there, and those in assisted housing frequently live in less optimal conditions than those in a position to buy or rent their own homes. This is especially apparent in the case of children, with one study recording a significantly greater blood lead level among young children raised in assisted housing (Ahrens et al., 2016). It is clear that housing assistance programs do benefit those who would otherwise struggle to secure housing (Fenelon et al., 2017), but the efficacy of these schemes is clearly limited. Architects are increasingly motivated to design residential properties in such a way as to support and optimize health outcomes for their inhabitants

(Heidari et al., 2016), and the more new housing is developed to meet these goals the greater the deficit experienced by those living in low quality, aging housing is likely to be.

Aside from the direct physical health implications of the built environment, an individual's domestic circumstances can impact their health in a variety of ways. It has already been noted that drug use tends to be a localized phenomenon in urban environments and a dense population of people who inject drugs tends to correlate with increased vulnerability to HIV transmission and other associated health risks (Cooper et al., 2016). Children who grow up in segregated communities where drug taking is normalized are at greater risk for adopting these same behaviors, and this contributes to the entrenching of the problem. Moreover, people who inject drugs in the United States tend to be grouped according to shared racial and ethnic characteristics because of the history of racial disparity which underlies existing forms of urban segregation (Cooper et al., 2016). The HIV Behavioral Surveillance Study Group sampled 9,170 persons who inject drugs from 19 metropolitan statistical areas (MSAs) in 2009 and determined that, whereas black respondents tended to have greater access to HIV testing they also suffered from worse access to substance abuse treatment when compared with their white compeers (Cooper et al., 2016). This disparity is linked to the different levels of healthcare provision made in different parts of the same town or city, and represents a greater danger for those who are not mobile or who may struggle to obtain appointments to receive treatment due to such circumstances as working long hours at significant distances from their closest treatment center or being the primary caregiver for a family including young children.

Several studies have linked place of residence with cardiovascular health (Diez Roux et al., 2016; Mujahid et al., 2017), noting the prevalence of tobacco smoke in certain domestic environments and observing that the deleterious effects of passive exposure to this substance

increase where rooms are small and poorly ventilated and where residents remain at home throughout the day. The likelihood of being constrained to the home—especially after dark—correlates with the perceived safety of the local environment and local crime levels. Those who are otherwise unwell are also likely to be relatively housebound and thus suffer the compounding effects of passive smoking. Poor diet is linked to poor cardiovascular health and therefore neighborhoods under-served with high quality produce and food outlets are likely to act as incubators for poor cardiovascular health (Diez Roux et al., 2016). Focusing specifically on smoking, Helms et al. (2017) noted that those living in public housing have a higher tendency to smoke. In this case the tendency is most pronounced among non-Hispanic white residents, but overall the proportions of African Americans and Hispanics who rely on assisted housing is higher. The authors assert that "housing assistance programs provide a valuable platform for the implementation of evidence-based tobacco prevention and control measures, including smoke-free policies" (Helms et al., 2017, p. 171), a view which again stresses the scope—and potentially the need—for a pro-active approach to holistic healthcare if the entrenched disparities along racial/ethnic lines are to be redressed.

A simple but crucial factor in maintaining good cardiovascular health is the opportunity to walk outdoors on a regular basis (Watson et al., 2016). As noted already, residents in areas with a high local crime rate are less likely to feel confident walking alone or at certain times of day, and this constrains their ability to remain healthy. Recent studies demonstrate significant differences of attitude towards the feasibility and desirability of walking in an outdoor urban environment which correlate with levels of educational attainment and SES (Paul et al., 2017). In short, the more confident an individual feels in the safety of his or her local environment the less likely he or she is to remain indoors to the detriment of his or her health. Town planners are

increasingly taking these attitudes into account when designing public spaces, for instance by proactively intending shopping malls to be used as sites for recreational walking (Belza et al., 2017).

2.8 The Relationship Between Stress and Health Outcomes

Stress is a normal fact of life and, if managed well, has only a limited quotidian impact on individual health outcomes. Causes of stress, and the significance of individual causes, vary from person to person, and some—such as bereavement—are inevitable, unpredictable and unconnected to race or any other demographic factors. The majority, however, are likely to be experienced more keenly or more frequently by certain sub-groups of the population and understanding these disparities will present researchers, policymakers and the medical profession with options for ameliorating the disadvantage currently suffered by members of specific groups, notably those of African American and Hispanic heritage and those whose sexual practices are not confined to relationships with members of the opposite sex.

This section explores the various stressors experienced by the target population and their potential link to poorer health outcomes. In terms of sexual behaviors (including high-risk behaviors) there is evidence to suggest that these are impacted by prolonged and/or acute exposure to stressful situations. The consequences of incarceration have already been discussed, as has the preponderance of African Americans and Hispanics among the prison population in the United States, but this is only part of a wider trend which connects the experience of stress with adaptive sexual behaviors. While incarceration likely results from instances of high stress (i.e. being connected to a crime and the experience of being tried in the courts), chronic stressors such as unstable housing and employment, limited parental and family support in early life, underlying health concerns and race consciousness can have a more insidious and no less

detrimental effect. A further stressor is the lack of health literacy which relates to under-confidence when approaching sex and the increased likelihood of developing and manifesting unsafe sexual behaviors. In the information age the free (and contradictory, and often poorly-sourced) information available online frequently contrasts with or contradicts information provided in schools where an *abstinence-only* approach is enshrined in the curriculum. This lack of clear and accurate information, coupled with limited parental support, can lead to members of vulnerably demographic sub-groups—including and especially Hispanic and African American MSM—making errors of judgment in their youth which lead to their contracting HIV, STI's or damaging their psychological health.

A further stressor particular to this group (black and Hispanic MSM) is the cultural pressure to reject homosexual practices still prevalent in some neighborhoods and family units in the United States. Cultural attitudes vary and are notoriously difficult to measure, however there is clear evidence—statistical, anecdotal and qualitative—which links racial background, cultural background, stress and attitudes towards sexuality and behavior. What follows is an examination of certain key components of social attitudes and recommendations for proactive holistic healthcare approaches to redressing the harm these do from a medical perspective.

2.8.1 Stress and Race

Hypertension is the most medically useful measure of stress and can be particularly instructive when examining anticipatory attitudes among certain sub-groups of the population. Hicken et al. (2014) examined the relationship between anticipatory stress and hypertension among African Americans, Hispanics and whites, concluding that members of the first demographic sub-group suffer from the highest levels of *vigilance*—the expectation or fear of racism-related violence—and, correspondingly the highest levels of hypertension. Hispanics

were shown to suffer somewhat on both counts while white subjects were relatively immune, despite being subject to other stressors including concerns around personal finances, relationships and living environments. These results take on an additional level of significance when considering that the importance of stress as a cause of poor cardiovascular health is now regarded as being similar to that of cholesterol levels and other physical factors (Dimsdale, 2008). Increased levels of vigilance are just one of several psychosocial factors which positively correlate with hypertension and with membership of the target sub-groups: African Americans or Hispanics, MSM and, in particular, MSM who belong to one of these ethnic minorities or who have a mixed racial background. Among these factors is race consciousness, discussed above, but also social relationships and the perceived threat to these experienced by MSM living in communities where the practice of homosexual sex is discouraged and/or discriminated against. A study using National Health Interview Survey data reported that both emotional support and social integration were independently associated with decreased odds of hypertension (Gorman & Sivaganesan, 2007), and membership of both an ethnic minority group and a minority group defined by sexual practice renders any individual vulnerable in both respects. Focusing explicitly on race and hypertension, Cuevas et al. (2017) note that “racial/ethnic and SES segregation in particular can increase the risk of morbidity and mortality through limited socioeconomic mobility” (p. 8). Once again a causal relationship is apparent between ethnicity, SES, stress and overall health.

Religious faith and practice is often cited as an inhibiting factor in the open discussion of sexual practice and is particularly prevalent in ethnic minority communities. One recent study is cautious about the danger of treating religious identity (part self-defined, part resultant from belonging to a particular family and community) as monolithic and uniformly a negative

predictor of health outcomes, in that whereas personal devotion in the form of prayer did correlate with an increased likelihood of hypertension, the belief in and practice of certain forms of *forgiveness* correlated negatively with increased hypertension (Buck et al., 2009). By the same token, van Olphen et al. (2003) assert that "social support received from church members mediates the positive relationship between church attendance and specific indicators of health" (p. 549). This suggests that religion is a nuanced dimension in the pathology of stress and—like race and ethnicity—much depends on self-perception, the equivalent of race consciousness. This point is underlined by Albert and Williams (2011) who write that "irrespective of attribution, perceptions of discrimination or unfair treatment are adversely related to health, regardless of the racial status of the individuals or groups that report experiencing them" (p. 1242). In order to reduce the disparity in hypertension experienced by white people and members of ethnic minority groups it is clear that addressing negative self-perception will be as important as making proactive interventions in healthcare provision. This is likely to be especially true for members of the MSM sub-group who are living with multiple and cumulative experiences of stigma.

In order to advance the case that the primary causes of health related disparities relate to heritage, sexual orientation and high-risk behaviors it is important to consider the alternative proposition that some individuals are simply more predisposed to experience stress and, consequently, hypertension, in other words that these trends which associate high stress with particular ethnic minority groups are a consequence of correlation but not of causation. Boehm et al. (2015) argue that optimism is irregularly distributed to some degree and that optimism is associated with a lower disposition in favor of stress. Through a thorough examination of statistical data, however, they demonstrate that greater optimism is linked to a sense of

achievement across several generations and is consequently less common among black and Hispanic people from whom low SES is an inter-generational constant. They argue that "increasing educational opportunities and otherwise reducing social disparities may not only improve physical health, but may also foster greater psychological assets" (Boehm et al., p. 13), a view echoed by Cuevas et al. (2017): "lifestyle modification remains the most effective interventions [sic] to reduce hypertension risk" (p. 8). Rather than an inherent characteristic, optimism is, at least in part, a learned perspective and therefore easier to access for those with high levels of personal attainment and access to cultural capital.

2.8.2 Stress and Mental Health

Stress is a form of psychological ill-health, although the extent to which it is or should be pathologized varies from one individual's experience to another's and therefore represents a challenge for those setting policy in the medical sector. Hypertension is a measurable manifestation of stress and both are linked to other forms of poor mental health and well-being. In the United States, depression is an increasingly widespread mental health concern, with unipolar depression projected to become the second leading cause of disability worldwide and the leading cause of disability in high income nations, including the United States, by 2030 (Mathers & Loncer, 2006). In this context it is significant to note the evidence which shows that African Americans and Hispanic Americans are less likely to seek professional support for depression and that consequently it is likely to do them more long-term and unmediated harm when compared with white Americans who also suffer from it (González et al., 2008). A related study demonstrated that while few white Americans who suffer from depression receive antidepressive treatment, but even fewer African Americans in the same position do so (González et al., 2008). The consequences of this are not immediately apparent, since the

efficacy of such treatment regimens is not always clear, however the authors of this study remark that “increased availability and initiation of mental health treatment will require new outreach efforts to underserved patients and clinicians who serve those patients” (González et al., 2008, p. 8), alluding to the understanding that a reluctance to receive such treatment is often culturally encoded and may not be straightforwardly overcome.

A key indicator of adult mental health is the quality of care received in childhood, reinforced by the environment inhabited as an adult. Even accounting for low SES and other predictors of poor mental health, subjects characterized by emotionally well-supported childhoods have been shown to experience stronger mental health and a reduced risk of hypertension in adulthood on average (Slopen, 2010). It follows that members of groups subject to cultural stigma—such as MSM—who are raised in emotionally healthy environments are less likely to be affected by disproportionate allostatic load in later life. While this observation relates directly to the integrity of the family unit and the level of environmental and educational support offered to a subject in early life, there are implications for those raised in communities which ostracize or simply refuse to discuss non-heteronormative sexual practices. Positive childhood experiences may indeed predict “ideal cardiovascular health in midlife” (Slopen et al., 2010, p. 8), but such experiences are less likely to arise if children and young adults develop a negative self-perception relating to their sexual orientation or other stigmatized behaviors like injection drug use. While it is perfectly possible for any individual, regardless of racial or ethnic heritage and sexual orientation, to enjoy an emotionally supportive childhood, Sternthal et al. (2011) remind us that, “because of segregation, the conditions under which Blacks and a growing number of Hispanics live are far worse than those of the rest of the population” (p. 8), and

because of this the number of chronic stressors affecting parents and caregivers is elevated, significantly disadvantaging children born into such low SES communities.

African American and Hispanic MSM potentially suffer from stigmatization on two counts: that of race and that of sexuality. As a result they are more vulnerable than the majority of the population to elevated levels of stress and accompanying hypertension. At the start of this decade, with an African American President in the White House, 56% of African Americans and 27% of Hispanics believed there to be *a lot* of discrimination in America, compared to only 16% of Whites (Byrd & Mirken, 2011). Two metrics are important here: how much racially-motivated discrimination exists in measurable terms and what level of perceived discrimination persists. Simply the relative inuring of the white population from overt racist attitudes which this data implies has positive consequences for their projected health outcomes: the belief that America has moved into a post-racial phase in its history acts as something of a placebo effect, reducing levels of race consciousness and, as a result, the stimulus to experience racism-related stress. For African Americans and Hispanics, however, the relatively high rates of perceived racism have the opposite consequence: increased propensity to feel stress among these demographic sub-groups. A similar case can be made on the basis of sexual orientation: those who live in communities where homophobic stigmatization is neither manifest nor perceived to be manifest are unlikely to suffer elevated levels of stress on account of their non-normative sexual orientation. Where stigma remains prevalent, however, or at any rate the perception of stigma, elevated stress levels are the likely consequence among MSM and other non-heteronormative people.

The factors driving poor mental health can be exacerbated by online harassment and prejudicial content (Lewis et al., 2015). There is reason to suppose this to be of particular

significance in cases where black and minority ethnic MSM use the internet as a resource to improve their health literacy and develop sexual and/or romantic relationships. The online domain provides scope to overcome local stigmatization, but also imposes a burden of risk in that online content remains largely unregulated and much of what is available has a racist or homophobic bias. Prolonged exposure to attitudes of this kind is likely to increase vigilance and may be interpreted as stressful conditioning. This is especially the case where children are concerned.

Sexual stereotypes in common use online tend to lack nuance and often characterize African American and Latino MSM as sexually aggressive and liberated (Wilson et al., 2009). Exposure to such stereotypes in the absence of a counter-balancing narrative sustained in the home and among peers is likely to normalize them for consumers of online media and ingrain certain expecations of sex which are frequently high-risk in nature. Additionally, Wilson et al. (2009, p. 411) note the prevalence of material which treats white MSM as normative and men of non-white ethnicity as deviant. They contend that “preferences for color may align themselves with preferences for stereotyped characteristics linked to men in particular racial groups” (Wilson et al., 2009, p. 411). This observation reflects the extent to which health literacy and attendant sexual expectations derived solely from the Internet is likely to ingrain misleading assumptions in young MSM.

2.8.3 Sleep Deprivation and Adolescent Sexuality

Low SES is associated with poor quality of sleep (Sickel et al., 1999, p. 431) which, in turn, is a cause of poor physical and mental health which is likely to deteriorate over the long-term unless sleep quality improves. A vicious cycle emerges in which lack of sleep is driven (in part) by hypertension, which then becomes exacerbated as a consequence of sleep loss. Sleep

quality is often measured in terms of number of hours of sleep per night (Sickel et al., 1999, p. 432), but other relevant factors may include the frequency of interruption, regularity of sleep patterns and sense of wakefulness experienced after a night of sleep. It is also the case that subjects of different ages require more or less sleep, and poor quality of sleep is particularly detrimental for adolescent subjects who are already vulnerable to the consequences of racism and homophobia on account of their youth and the physiological and psychological consequences of puberty. For those discovering or coming to terms with their non-heteronormative sexual orientation this is a particularly vulnerable time.

Sexual experience is now common during adolescence, with 43% of 15-19 year old men in the United States self-reporting one or more sexual encounters in a survey from 2010 (Abma et al., 2010). Among African American adolescents surveyed in relation to their sexual practices the value of supportive male social networks was stressed (Harper et al., 2004). Where these were present, respondents reported a positive response to sex, and it is clear that these dynamics exist more reliably in contexts where these men are engaging in sex with women rather than sex with men, which remains disproportionately stigmatized among African Americans. Ott (2010) asserts that, "for boys, key aspects of... peer context are its limited ability to teach intimacy within friendships, and peers' ability to support (or undermine) romantic relationships" (p. S7). Without the reliable support of peers, young African American MSM are likely to experience elevated stress compounded, in many cases, by their low SES.

2.9 High-Risk Behavior

Neglecting to take prescribed medication is clearly a high-risk behavior, the causes of which need to be properly understood by prescribing physicians if treatment is to improve and the health outcomes for members of different racial and ethnic groups in the United States are to

become less markedly different. This study has already noted that other high-risk behaviors compound the poor health outcomes of many African Americans and Hispanics, especially in low SES groups, notably binge drinking and substance abuse. Other high-risk behaviors more prominently displayed by members of these sub-groups include unsafe sexual practices (including those linked to the transmission of HIV), overeating, poor exercise habits, and unsafe driving behaviors (Factor et al., 2013, p. 2245).

Historically the analysis of high-risk behaviors has tended to ascribe the cause either to social factors or individual irresponsibility; however some social scientists prefer to interpret it as a combination of the two things in which the subjects are not passive but rather deliberately resisting socially prescribed or authorized behaviors as an act of social resistance (Factor et al., 2013). Proponents of this view comment on the link between particular racial and ethnic groups and a tendency towards high-risk behaviors as evidence of this political dimension. Analysis based on this premise has found that members of these minority groups with a high level of race consciousness who perceive themselves to be routinely discriminated against manifest a much greater tendency to adopt high-risk behaviors (Factor et al., 2013, p. 2249). This model brings together several studies discussed above which emphasize the significance of believing yourself to be a victim of discrimination. Such a belief appears to stimulate a potentially self-harming response, and provides further evidence of the intractable link between racial identity and prospective health outcomes.

Whatever the cause, evidence persistently suggests that high-risk behaviors like smoking are disproportionately common among African Americans. Delva et al. (2005) sampled low-income men and women belonging to this demographic group and reported that 59% of men and 41% of women were current smokers, this in contrast to a national trend of rapid decline in

regular smoking. In common with many medical studies of the last five decades, they identify smoking tobacco as "the single largest preventable cause of death" (Delva et al., 2005, p. 1) among adults and not that it has a disproportionate impact on African Americans. Again, it is difficult to differentiate between correlation and causation, with some studies indicating that the disparity along apparently racial/ethnic lines can be better explained by SES (Haas et al., 2015). Those Americans with the opportunity—both financial and measured in terms of availability—to access interventive counseling report greater success rates in smoking cessation (Haas et al., 2015, pp. 221-223).

These studies raise important questions about the scope of a medical professional's power to influence an individual's health outcomes and about the obligation which that professional comes under to behave proactively in administrating healthcare. The Hippocratic Oath requires of physicians that they *first do no harm*, but it could well be argued on the basis of these studies that failing to take action to address their own unconscious biases and those of their patients might be construed as harmful.

2.9.1 Causes of High-Risk Behavior

Many men who have access to, and know the utility of, condoms decline to use them in practice, a behavior which makes them increasingly vulnerable the more sexual encounters they have with a greater variety of partners (Herrmann et al., 2015). MSM are particularly at risk of contracting HIV and STI's in such circumstances because of the efficacy of anal sex as a mode of transmission for these conditions. In order to identify a solution for the self-penalizing approach to sexual encounters it is necessary to understand the causes, which may include the desire to embody certain masculine stereotypes, the inability to think coherently at the time when the encounter takes place (perhaps as a consequence of substance abuse) and anxiety about

disclosing or initiating a conversation about their or their partner's HIV status (Herrmann et al., 2015). In this context, it is useful to note the view of Grov et al. (2015) that, in the context of a study they conducted into the behavior of American MSM, "race-based sexual stereotypes were largely unsupported by empirical data" (p. 224). This suggests that differences in behavior are likely to be based on perception and expectation rather than biology or other empirical information. In short, it may well be the case that vulnerable MSM engage in high risk behaviors because both partners believe it is expects of them without ever establishing a rational basis for that expectation.

Race-related sexual stereotypes are reinforced by online content and a reluctance to challenge them in cultures which resist homosexual behaviors. Health literacy, in this context, should be understood to include the absence of significant biological distinctions pertaining to sexual encounters which are either homophilic (i.e. with a partner of the same race) or heterophilic. Where two consenting partners approach a sexual encounter with an accurate appreciation that stereotypical associations between race and sexual preference do not necessarily obtain the evidence demonstrates a lower likelihood of their engaging in high-risk behavior (Grov et al., 2015). In developing policy to address the negative impact of race-related sexual stereotyping among African American MSM it would be productive to take a binary approach which both discourages the unmediated consumption of misleading online content or peer-to-peer information sharing and encourages safe sexual practices through school programs which exist to mitigate cultural silences in relation to sexual orientation, consent and the availability and use of contraception.

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Chapter 3: Research Method

3.1 Introduction

Since 2008, efforts to reduce new HIV infections in the United States have been largely successful. HIV awareness campaigns have become commonplace on social media platforms over the past decade and HIV prevention, testing and treatment have become cornerstones of sexual health outreach in priority communities. Another important factor in the effort to destigmatize the condition was aggressive Obama-era policymaking, which instigated a seismic shift in addressing new infections of HIV in the United States by providing access to medication and widening access to medical care for millions of Americans. Before these policies came into effect, healthcare and health-related insurance products had become too expensive—and therefore inaccessible—for many Americans to access.

In 2010, President Obama signed into law the Patient Protection and Affordable Care Act, which largely reformed the business of health insurance and healthcare provision. The Act made health insurance affordable for an estimated 20 million previously uninsured Americans by providing subsidies, and the introduction of these new health care coverage options highlighted the need for preventive health care. It was demonstrated that a large portion of the federal government's budget had previously been financing expenses incurred by the uninsured. Additionally, with the related expansion of Medicaid, more poorer Americans who previously could not qualify for Medicaid and who were unable to afford health insurance premiums were now able to access primary care services for preventive treatment rather than being forced to rely on the use of emergency services, which were and remain extremely costly. Providing access to preventive care created a pathway for patients to access diagnostic testing for HIV along with other care they received. Early diagnoses allowed patients to be medicated sooner than they

might otherwise have been before the Patient Protection and Affordable Care Act became law. The healthcare community has come to learn that HIV+ patients who adhere to their medication regimens are more likely to achieve suppressed HIV RNA levels and less likely to transmit HIV to their sexual partners. Two years after the passage of the PPACA (or ACA), officials at the Food and Drug Administration approved the use of Truvada to be used prophylactically after the iPrEx study revealed that the prophylactic treatment reduced new infections of HIV by as much as 42% in HIV-negative MSM and transwomen, both groups considered high-risk for HIV transmission.

While the collective efforts of those involved in the rollout of the aforementioned public health strategies contributed to remarkable reductions in the number of new HIV infections in the United States, the reduction of new HIV infections was not universal among all categories of patients; rates of new infections for MSM identifying as African American and/or Hispanic consistently show an average annual increase of 0.43% and 2.05% whilst the rates of new infections for MSM identifying as Caucasian and mixed race have declined by an annual average of 2.59% and 4.57%, respectively. Recent research has persuasively demonstrated that there is biologically very little diversity between humans of different races; however, health disparities between ethnic minorities identifying as African American and/or Hispanic/Latino are vastly well-established. The present study was designed to compare sexual health-related communication and healthy sex-related behavioral differences in relation to race/ethnicity and through the lens of major differentiators such as SES (neighborhood of residence, occupation status, level of education, parents' level of education, salary, access to care, and penal history).

3.2 Research Design

The present study was designed in response to race/ethnicity-based disparities relating to new HIV infections among MSM in the United States. However, due to the challenges and expenses associated with nationwide data collection and given the rich layers of regional diversity which influence MSM culture and decision-making, the specific focus of this study was generalized to the New York City metropolitan area. The target population of this study included ≥ 18-year-old men residing in said area who had had sexual contact with one or more other men and who did not self-identify a sexual preference of asexual (celibate).

3.3 Sampling and Sampling Procedures

Convenience sampling was the central non-probability sampling technique incorporated into this quantitative research effort. The decision to use a non-probability sampling technique was influenced by two considerations: efficiency and necessity. Probability-based sampling was inappropriate in this study because it would have been difficult to provide every NYC-based MSM a non-zero probability of being included in the sample and it would have been impossible to provide the random selection necessary for probability sampling. Attendant to that, the emergence of the COVID-19 worldwide pandemic in 2020 and the contemporaneously imposed shutdowns, lockdowns and social distancing requirements limited this researcher's ability to pursue probability sampling. The present research project was best suited for a non-probability sampling technique. The focus was on trends and variables impacting the healthy sexual communication and behavioral habits of MSM, which were hypothesized to be contributory factors associated with the health disparity in new HIV infections among African American and Hispanic MSM.

There were several benefits associated with the incorporation of non-probability sampling techniques into the present study. Principally, the nonprobability sampling technique used required less time to complete, and therefore reduced the projected cost of the study. Changing the survey design by excluding probability-based sampling provided an opportunity to reach members of the target population in a manner that was responsive to restrictions associated with the present-day COVID-19 pandemic, while also reducing the cost, time and other practical constraints associated with probability sampling (Fielding et al., 2017, p. 2). The well-documented principal constraint of non-probability sampling is that it does not provide everyone in the target population with equal access or opportunity to be selected for inclusion in the sample. Consequently, it is necessary to accept that the findings of this study do not represent the entire MSM population of the New York City metropolitan area. As such, the findings may be generalizable only to members of the target population to whom this researcher gained access through the selected sampling method.

3.4 Procedures for Recruitment, Participation and Data Collection

An abundance of published studies demonstrates that the majority of members in the MSM community utilize internet-delivered services, such as websites and geospatial applications, to network with other MSM, with some studies providing estimates of nearly 100% engagement with these media. Therefore, it was decided to harness the power of the internet to collect a sample that represented MSM in New York City. The survey instrument was deployed via a publicly available URL that was advertised through various social media channels including geospatial applications used by members of the MSM community. The URL redirected potential respondents to a landing page that described the study and required an expression of explicit, informed consent before enabling respondents to progress to the questionnaire.

3.5 Data Collection Instrument

The instrument used for data collection took the form of a 36-item survey, designed to collect basic quantitative information about respondents' demographic characteristics and behavioral indicators such as sexual preferences, HIV status, medication adherence and sexual health communication. The data collection instrument employed esoteric language such as *undetectable* and *viral load*, which may not have been comprehensible to HIV negative individuals or those who had not accessed or fully understood treatment for HIV. Prior to deploying the instrument for widespread data collection, a pilot study was conducted to identify problems in skip logic and to identify areas of the design which needed improvement. The instrument was also evaluated by professionals with higher levels of training in health programming research. Feedback was collected and changes were made to render the instrument more accessible to a wider audience, specifically in terms of its reading level. Prior to deployment, the instrument was evaluated using the Flesch-Kincaid Grade Level Test to rate its reading difficulty level. The Flesch-Kincaid Grade Level Test compares written text to the standards of text that should be comprehensible at certain grade levels in the United States.

Since the average American reads at an eighth grade level (Stossel et al., 2012) and since it is recommended that health-related forms be developed at levels ranging from sixth to eighth grade (Foe & Larson, 2016; National Institutes of Health, 2011), the reading level of the instrument was significantly decreased to finally achieve a 5.8 Grade Level Score, indicating that anyone with just under a sixth grade education should have been able to access the instrument. The Flesch-Kincaid Grade Level Test was selected due to its popularity among health specialists and researchers concerned with the accessibility of written materials (Wang et al., 2013). An additional evaluation of reading ease was undertaken using the Flesch Reading Ease formula, as

a result of which the instrument's level of reading complexity—in terms of style—was decreased to 69.8, indicating an ease of reading that lies between the categories *fairly easy* and *standard*.

3.6 Data Analysis Plan

Since the object of this study was to identify and describe trends and associations which linked the demographic characteristics, behavioral indicators and health outcomes of participants, it was necessary to subject the data gathered to a series of statistical procedures, for which purpose the software SPSS Version 26 was used. As a precondition for analysis, checks for accuracy and missing values were conducted, and frequencies of response were assessed in order to ensure that captured data fell within the established range of values for each item. A process of pairwise exclusion was used to ensure that data were only used in cases where respondents had responded to all items required for specific analyses. Before attempting an interpretation of these data, descriptive statistics were compiled so as to compute salient frequencies and percentage details. This was done in order to generate a comprehensive overview of the profile of respondents, thereby providing context for the interpretation which was the object of this study. Since this data gathering was done on the basis of hypotheses linked to contextual factors, establishing the context for the respondent pool was essential. Once these preliminaries had been concluded, it was possible to address the hypotheses directly.

3.7 Research Questions

3.7.1 Research Question 1

To what degree do MSM who are HIV negative take HIV medication for preventative purposes?

3.7.1.1 Statistical Approach

Addressing this question required the analysis of descriptive statistics, namely percentages and frequencies demonstrating the degree (or extent) to which respondents used HIV medication in this way. Respondents volunteered data relating to their current medication and their HIV status. This analysis focused on the subgroup of respondents who were HIV negative.

3.7.2 Research Question 2

To what degree do MSM who are HIV positive misrepresent their HIV status to their sexual partners?

3.7.2.1 Statistical Approach

The data gathering instrument designed for this study collected a range of responses relating to the reasons why respondents did and did not accurately represent their HIV status to sexual partners. These data were analyzed in terms of the frequency of particular responses, expressed as percentages and tabulated to demonstrate which reasons were given as more or less common motivations for misrepresentation. Respondents were invited to select wording which closely resembled statements they had made, and thus an element of interpretation was built into the relevant questions.

3.7.3 Research Question 3

Does race/ethnicity significantly predict medication funding among MSM?

3.7.3.1 Hypotheses for Research Question 3

$H3_0$: Race/ethnicity does not significantly predict medication funding among MSM.

$H3_a$: Race/ethnicity does significantly predict medication funding among MSM.

3.7.3.1.1 Statistical approach. This question invited a binary logistic regression, again treating race/ethnicity as the independent variable for statistical purposes. Medication funding, in

this case, was treated as both dependent and dichotomous, since respondents to the data gathering instrument had been given the option to define their medical care as either "self-funded" or "not self-funded." The individual regression coefficient for race/ethnicity was evaluated at a significance level of 0.05.

3.7.4 Research Question 4

Does medication funding significantly predict medication adherence among MSM?

3.7.4.1 Hypotheses for Research Question 4

$H4_0$: Medication funding does not significantly predict medication adherence among MSM.

$H4_a$: Medication funding does significantly predict medication adherence among MSM.

3.7.4.1.1 Statistical approach. Once again, logistic regression was the appropriate analytical method to apply here. In respect of this Research Question, medication funding was treated as the independent variable and was coded as dichotomous on the basis that respondents could either declare their medication to be "self-funded" or "not self-funded." By contrast, medication adherence, treated here as the dependent variable, could vary significantly within a range of possible responses. The individual regression coefficient for medication funding was evaluated at a significance level of 0.05. The object here was to identify any significant association between funding and medication adherence.

3.7.5 Research Question 5

Does race/ethnicity significantly predict medication adherence among MSM?

3.7.5.1 Hypotheses for Research Question 5

$H5_0$: Race/ethnicity does not significantly predict medication adherence among MSM.

$H5_a$: Race/ethnicity does significantly predict medication adherence among MSM.

3.7.5.1.1 Statistical approach. Interpreting the data gathered in relation to this research question involved conducting an ordinal logistic regression, a method chosen for its reliability in ascertaining whether dependent variables can be predicted by one or more independent variables in a study (Menard, 2009). In this case, the accuracy of either hypothesis depended on treating race/ethnicity as an independent variable and exploring the data to identify whether or not there was a correlating trend linking this to medicinal adherence. Race/ethnicity was recorded as a dichotomous variable in SPSS. Pursuant to current understandings of race/ethnicity as, at least in part, socially determined, it was necessary to record the self-identification registered by individual respondents. These data were then correlated against responses to those survey questions which related to the medicinal regimen followed by respondents. Data gathered related to the frequency with which they took medication and the purpose of that medication (whether prophylactic or antiretroviral) as they understood it. The regression coefficient for race/ethnicity was set at a significance level of 0.05.

3.7.6 Research Question 6

Do racial/ethnic groups significantly differ in terms of education, income, insurance, incarceration experience, and sexual preference among MSM?

3.7.6.1 Hypotheses for Research Question 6

$H6_0$: Racial/ethnic groups do not significantly differ in terms of education, income, insurance, incarceration experience, and sexual preference among MSM.

$H6_a$: Racial/ethnic groups significantly differ in terms of education, income, insurance, incarceration experience, and sexual preference among MSM.

3.7.6.1.1 Statistical approach. This research question was addressed by means of a series of chi-square tests of independence, chosen for their ability to demonstrate any statistically

significant association which exists between two categorical variables (McHugh, 2013). Once again, race-ethnicity was treated as an independent variable, whereas the following dependent variables were specified: income, education, whether or not the respondent had health insurance, whether or not the respondent had a history of incarceration, and the sexual preference self-declared by the respondent. A significance level of 0.05 was set for each chi-square test.

3.7.7 Research Question 7

Does race/ethnicity significantly predict behaviors associated with sexual health maintenance—misrepresentation of HIV status, use of protection, asking about partners' HIV status, and disclosing own HIV status—among MSM?

3.7.7.1 Hypotheses for Research Question 7

$H7_0$: Race/ethnicity does not significantly predict behaviors associated with sexual health maintenance (misrepresentation of HIV status, use of protection, asking about partner HIV status, and disclosing own HIV status) among MSM.

$H7_a$: Race/ethnicity does significantly predict behaviors associated with sexual health maintenance (misrepresentation of HIV status, use of protection, asking about partner HIV status, and disclosing own HIV status) among MSM.

3.7.7.1.1 Statistical approach. This question also related to race/ethnicity which, once again, was treated as an independent variable for the purpose of conducting several logistic regressions (binary and ordinal). This method was deemed a suitable form of analysis because of its utility in determining whether an independent variable can predict a dichotomous or ordinal dependent variable (Menard, 2009). In this case, several behaviors connected with sexual health maintenance were identified, specifically attitudes towards disclosing one's own HIV status, misrepresentation of one's HIV status and willingness to ask sexual partners to disclose their

HIV status. Since the survey gathered data related to these three variables in different ways, it was necessary to apply different methods to those data for the purpose of analysis. Data pertaining to misrepresentation of the respondent's own HIV status were gathered using a question admitting only of a dichotomous answer. Respondents were asked whether they had ever told a sexual partner that they were HIV negative while knowing the reverse to be true, and were only able to answer "yes" or "no." Because the responses were dichotomous, a binary logistic regression was used to analyze the data generated. By contrast, asking about or volunteering information about a partner's or one's own HIV status (respectively) were treated as ordinal variables, requiring the application of ordinal logistic regression. Regardless of whether a binary or an ordinal regression was used, the individual regression coefficient for race/ethnicity was evaluated at a significance level of 0.05.

3.7.8 Research Question 8

Do demographic and behavioral factors significantly predict the reasons why MSM may not disclose their HIV status to their sexual partners?

3.7.8.1 Hypotheses for Research Question 8

$H8_0$: Demographic and behavioral factors do not significantly predict the reasons why MSM may not disclose their HIV status to their sexual partners.

$H8_a$: Demographic and behavioral factors significantly predict the reasons why MSM may not disclose their HIV status to their sexual partners.

3.7.8.1.1 Statistical approach. Analysis conducted to address this research question involved a series of binary logistic regressions using a range of independent variables. These were defined as: race/ethnicity, current medication use and adherence, sexual preference, undetectable status, use of protection, propensity to ask about the HIV status of a sexual partner,

occupation, age, level of income and level of education. The analysis conducted was designed to determine whether any of these variables could reliably predict the dependent variable, defined as the range of reasons stated for non-disclosure of HIV+ status to sexual partners. The individual regression coefficients for the independent variables were evaluated at a significance level of 0.05.

3.7.9 Research Question 9

Do race/ethnicity, age, education, income, and incarceration experience significantly predict having health insurance among MSM?

3.7.9.1 Hypotheses for Research Question 9

$H9_0$: Race/ethnicity, age, education, income, and incarceration experience do not significantly predict having health insurance among MSM.

$H9_a$: Race/ethnicity, age, education, income, and incarceration experience significantly predict having health insurance among MSM.

3.7.9.1.1 Statistical approach. Once again, binary logistic regression was identified as the appropriate mode of analysis to apply in addressing this Question. Several variables were coded as independent, specifically: race/ethnicity, age, income, level of education and experience of incarceration. These were examined in relation to the dependent variable, defined as: whether or not the respondent has health insurance (a dichotomous question). Individual regression coefficients for independent variables were evaluated at a significance level of 0.05. The intention was to discover whether a significant association existed among respondents to this study between any of the independent variables listed here and the likelihood that the respondent had health insurance.

3.8 Summary

Each analytical approach described in this section involved the application of non-parametric tests (logistic regression, chi-square tests and Spearman correlation). As a result, distributional assumptions did not apply, as they otherwise would have been performed. Nevertheless, certain precautions were taken to ensure the reliability of inferences drawn from this data set. Specifically, multicollinearity was tested using variance inflation factors (Menard, 2009) on the basis that several of the regression models applied here involved multiple independent variables (specifically, the analyses relating to Research Questions 8 and 9).

Chapter 4: Results

4.1 Description of the Sample

The demographic characteristics of the sample are presented in Table 1. Of note is the largest proportion of respondents self-identified as Caucasian (n = 90, 42.5%). Respondents ranged in age between 18 and 68 years old, with a mean age of 30.7 years old, and the most commonly reported income bracket was $30,000-$50,000 (n = 50, 23.6%). In terms of the level of education among respondents, the largest single group reported their highest level of educational attainment to include some college up to the bachelor's degree (n = 88, 41.5%). Although no borough produced a majority of respondents, the largest single group resided in Manhattan (n = 79, 37.3%). There were various demographic differences between respondents who identified as African American and/or Hispanic and those who identified as Caucasian/white. The age range of respondents who identified as African American was 18-54 years old, with a mean age of 29.03 years old. The age range of respondents who identified as Caucasian/white was 19-68 years old, with a mean age of 34.48 years old. Respondents who identified as Hispanic/Latino had an age range of 18-36 years old and a much lower mean age (when compared either to African American respondents or Caucasian/white respondents) of 24.66 years old. The mean ages for American Indian and Asian respondents were 34.5 years old and 26.43 years old, respectively. Mixed-race respondents, whether inclusive or exclusive of Hispanic ethnicity, had a mean age of just under than 30 years old (29.8 and 29.93 years old, respectively). Those findings demonstrated more limited completion of the self-administered survey among older Hispanic/Latino respondents, an observation potentially attributable to the English-only presentation of the online data collection instrument.

4.1.1 Educational Disparities Along Racial and Ethnic Lines

Recent research in this field has frequently demonstrated opportunity gaps that exist in education, income and numerous other contributory factors that affect the SES of the American citizenry. A deeper review of the demographic indicators associated with the present study clearly demonstrated many of the key dichotomies between respondents who identified as African American/black or Hispanic/Latino and those who identified as Caucasian/white—the racial/ethnic group widely perceived as dominant in America. Respondents who identified as Caucasian/white respondents enjoyed greater levels of educational attainment than their African American/black and Hispanic/Latino counterparts and—based on an analysis of the collected data—they largely came from homes with more educated parents, which, in most circumstances, likely resulted in greater levels of educational child guidance and support.

Key differences existed in the highest attained levels of education for respondents among African American/black, Hispanic/Latino, and Caucasian/white respondents. Among the 62 respondents who identified as African American/black, the most frequently (29, 46.7%) identified highest level of education was the high school diploma. Another 16.1% of African American/black respondents indicated they had attended college but had not earned a college degree. The third most frequently identified highest level of education—with 12.9% of African American/black respondents selecting this option—was the bachelor's degree. Seven (11.2%) African American/black respondents indicated that their highest level of education did not meet or exceed the level of a high school diploma, while another 6.45% had earned master's level degrees. Least frequently selected highest levels of education among African American/black respondents were the associate's and doctoral-level degrees, with each registering just 3.2% of responses.

Just over half (56.3%) of respondents who identified as Hispanic/Latino most frequently selected the high school diploma as their highest level of education. A quarter (8, 25%) of Hispanic/Latino respondents indicated that they had not earned a high school diploma. Three (9.37%) of the respondents who identified as Hispanic/Latino specified that they had attended college but had not earned a college degree and 6.25% of Hispanic/Latino respondents had earned an associate's degree. A single Hispanic/Latino respondent—accounting for 3.13% of respondents who identified as Hispanic/Latino—had earned a bachelor's degree. No Hispanic/Latino respondents identified a master's or doctoral degree as their highest level of education.

There was a clear difference in educational attainment between ethnic minority respondents who identified as African American/black or Hispanic/Latino and those identifying as Caucasian/white, in the sense that 28.9% of respondents who identified as Caucasian/white reported the master's degree as their highest level of education. This level eclipses the 6.45% and 0% master's degree attainment for respondents who identified as African American/black and Hispanic/Latino respondents respectively. The second most frequently reported highest level of education for respondents who identified as Caucasian/white was the bachelor's degree with 26.7% selecting that response. The percentage of Caucasian/white respondents who identified the bachelor's degree as their highest level of education was more than double that of African American/black respondents who selected the same option and more than eight times the percentage of Hispanic/Latino respondents. Nearly one-fifth (16.7%) of respondents who identified as Caucasian/white identified their highest level of education to be the attendance of college without having earned a college degree. Equal numbers (11, 12.2%) of respondents who identified as Caucasian/white specified that their highest level of educational attainment was the

high school diploma or associate's degree. The least frequently identified highest level of education among respondents who identified as Caucasian/white was the doctoral level degree, with just 3.3% selecting that option.

4.1.2 Education Disparities in Maternal Parentage

Several differences existed in relation to maternal highest level of education between respondents who identified as African American/black or Hispanic/Latino respondents and those who identified as Caucasian/white. Nearly half (45.2%) of African American/black respondents and almost two-thirds (59.4%) of Hispanic/Latino respondents indicated the high school diploma as the highest level of education for their mothers or maternal figures, while just 26.7% of respondents who identified as Caucasian/white identified the high school diploma as the highest level of education for their maternal figures. The majority (35.5%) of respondents who identified as Caucasian/white identified the bachelor's degree as their maternal figures' highest level of education. Just 12.9% of respondents who identified as African American/black identified the bachelor's degree as their maternal figures' highest level of education and no Hispanic/Latino respondents selected that option. Nearly one-fifth (17.7%) of respondents who identified as African American/black and 18.8% of those who identified as Hispanic/Latino indicated that their maternal figures had not earned high school diplomas, while only 1.1% of respondents who identified as Caucasian/white indicated the same. Maternal attainment of a master's level degree as the highest level of education differed significantly along racial/ethnic lines, as well. One in five (17.8%) maternal figures of respondents who identified as Caucasian/white held a master's level degree as their highest level of education, while just over half that percent (9.67%) of maternal figures of respondents who identified as African American/black held master's degrees as their highest level of education. None of the respondents who identified as Hispanic/Latino

identified the master's degree as their maternal figure's highest level of education. Instead, 12.5% of respondents who identified as Hispanic/Latino indicated that they did not know the highest educational level of their maternal figure.

4.1.3 Education Disparities in Paternal Parentage

The continued analysis of educational attainment by parental figures of respondents revealed interesting figures that demonstrated a divide between the levels of attachment or closeness that respondents had with their paternal parental figures. Perhaps the most salient statistic associated with this theme was that 40.3% of respondents who identified as African American/black and 62.5% of respondents who identified as Hispanic/Latino indicated that they did not know the highest educational attainment of their paternal parental figures, while only 12.2% of their Caucasian/white counterparts offered the same response. Further analysis revealed race/ethnicity-related disparities associated with paternal parental figures' educational attainment. Nearly one-fifth (18.8%) of respondents who identified as African American/black and 12.5% of respondents who identified as Hispanic/Latino indicated that their paternal parental figures had not earned a high school diploma, while 6.7% of respondents who identified as Caucasian/white indicated the same. Another 17.7% of respondents who identified as African American/black and 18.8% of respondents who identified as Hispanic/Latino indicated the high school diploma as their paternal parental figure's highest level of education. Approximately one-sixth (15.6%) of respondents who identified as Caucasian/white reported the high school diploma as the highest level for their paternal parental figures.

Relative parity between respondents who identified as Caucasian/white and as ethnic minority was exhibited in paternal parental attainment of some college education without earning a degree. There were 4.8% of respondents who identified as African American/black and 3.1%

of respondents who identified as Hispanic/Latino who reported that their paternal parental figure had attended some college but did not earn a degree, while 4.4% of paternal parental figures of Caucasian/white respondents had attended some college but had not earned a college degree.

Three (3.3%) of the respondents who identified as Caucasian/white indicated the associate's degree as their paternal figure's highest level of education, while none of the respondents who identified as either African American/black or Hispanic/Latino indicated the same. Just over a quarter (27.8%) of respondents who identified as Caucasian/white indicated a bachelor's degree as their paternal parental figure's highest level of education, while just over a third (9.7%) of respondents who identified as African American/black and 3.1% respondents who identified as Hispanic/Latino indicated the bachelor's degree as their paternal parental figure's highest level of education. Another quarter (26.7%) of respondents who identified as Caucasian/white identified the master's degree as their paternal parental figure's highest level of education, while only 6.5% of respondents who identified as African American/black and none of the respondents who identified as Hispanic/Latino indicated the master's degree as their paternal parental figure's highest level of education. Three (3.3%) of the respondents who identified as Caucasian/white indicated a doctoral-level degree as their paternal parental figure's highest level of education, while 1.6% of respondents who identified as African American/black and none of the respondents who identified as Hispanic/Latino indicated a doctoral-level degree as their paternal figure's highest level of education.

Greater educational attainment appears to be multigenerational, and reviewing these data confirmed the realities of existing literature. The present study additionally signaled a need for greater parity in educational opportunities for ethnic minorities in the United States and, in the specific case of these data gathered here, in the City of New York. If there is a connection

between educational opportunities and greater levels of health literacy—and an accompanying reduction of new infections of HIV among respondents who identify as African American/black or Hispanic/Latino—then health educators might productively consider embracing anti-racism educational campaigns at a policy level. These policy-oriented campaigns must be aimed at desegregation and other processes which produce greater levels of parity along racial/ethnic lines. Another area of socioeconomic difference between respondents who identify as members of ethnic minority groups and those who identify as Caucasian/white, and that has a direct relationship with educational attainment, is the income gap.

4.1.4 Demonstrated Income Gaps Along Racial/Ethnic Lines

As previously indicated, 23.6% of respondents in the present study indicated having an annual salary in the range of $30,000 to $50,000. A closer examination of the statistics demonstrated a significant income disparity along the lines of race and ethnicity, wherein the highest income levels for African American/black and Hispanic/Latino respondents generally corresponded to the lowest income levels for their Caucasian/white counterparts. Nearly a quarter (24.2%) of respondents who identified as African American/black and 28.1% of respondents who identified as Hispanic/Latino indicated that they were unemployed and had no income. Only 5.5% of respondents who identified as Caucasian/white reported being unemployed and lacking income. Another 25.8% of respondents who identified as African American/black and 37.5% who identified as Hispanic/Latino indicated that they were paid annual salaries of between $15,000 and $30,000. By contrast, only 4.4% of respondents who identified as Caucasian/white indicated the same.

At the midpoint of the salary ranges provided on the survey, the analyses demonstrated a greater level of income parity. For example, 21.1% of respondents who identified as

Caucasian/white indicated a salary of between $30,000 and $50,000 while 21% of respondents who identified as African American/black and 31.3% of respondents who identified as Hispanic/Latino also indicated salaries in the same range. Reviewing the three salary ranges that exceeded the midpoint on the scale made clear that respondents who identified as Caucasian/white earned significantly larger salaries than respondents who identified as members of African American/black or Hispanic/Latino minority groups, with 67.8% of respondents who identified as Caucasian/white reporting annual salaries ranging from $50,000 to more than $100,000. By contrast, less than half that percentage of respondents who identified as African American/black (24.2%) reported annual salaries meeting or exceeding $50,000; 14.5% of those respondents earned between $50,000 and $74,999, 6.5% earned between $75,000 and $100,000 and 3.2% earned more than $100,000. One hundred percent (100%) of respondents who identified as Hispanic/Latino reported annual salaries of less than $50,000.

While the income disparity was obvious and while race/ethnicity in isolation has been widely regarded as a causal factor in generating income and wealth disparities, it is possible to contextualize the statistics relating to income in the present study through the lens of some other contributing demographic information. Respondents who identified as Caucasian/white indicated a mean age of 34.48 years old, an age that could be more positively associated with middle-to-senior level professional roles, while the mean age of respondents who identified as Hispanic/Latino (24.7 years old) or African American/black (29 years old) may not be positively associated with the level of occupational tenure often necessary to qualify for higher salaries. These qualifications are an important part of responsible data analysis, however the spirit and intent of this cautionary interpretation should in no way be understood to detract or distract from

the profound impacts that racial and ethnic disparities have had on ethnic minorities in the United States.

4.1.5 Neighborhood-level Disparities Along Racial/Ethnic Lines

Nearly two-fifths (37.8%) of respondents indicated that their homes were situated in the borough of Manhattan, the borough largely regarded as more affluent and desirable when compared to the remaining four boroughs in New York City. Among those respondents were 13 (or 16.5%) Manhattan residents who identified as African American/black, eight (10.1%) Manhattan residents who identified as Hispanic/Latino and 46 (58.2%) Manhattan residents who identified as Caucasian/white. Neighborhood-level analysis revealed that 8 (10.1%) respondents who identified as African American/black—accounting for 61.5% of Manhattan-based respondents who identified as African American/black—resided in neighborhoods of Manhattan that are not widely regarded as enjoying similar levels of affluence to neighborhoods such as Greenwich or the Upper East Side of Manhattan. Therefore, only approximately 6.3% of respondents who identified as African American/black resided in the more affluent neighborhoods of Manhattan. By contrast, when adjusting for the number of Caucasian/white-identifying respondents who resided in less affluent neighborhoods in the borough of Manhattan, 36.7% of those indicating Manhattan as their home were respondents who identified as Caucasian/white and who resided in affluent neighborhoods. The same adjustment for respondents who identified as Hispanic/Latino revealed that only 2.5% of respondents who indicated residence in the affluent neighborhoods on Manhattan also identified as belonging to this demographic group.

The disparities associated with living in the more affluent neighborhoods of Manhattan illustrate that for every 5.8 respondents who identified as Caucasian/white and also identified one

of the more affluent neighborhoods of Manhattan as their place of residence, just one respondent who identified as African American/black also identified one of the more affluent neighborhoods of Manhattan as their place of residence. This disparity was even more noteworthy when evaluating respondents who identified as Hispanic. Whereas for every 14.7 respondents who identified as Caucasian/white and also identified one of the more affluent neighborhoods of Manhattan as their place of residence, just one respondent who identified as Hispanic/Latino also identified one of the more affluent neighborhoods of Manhattan as their place of residence.

Table 1. Descriptive Characteristics

Variable	*n*	%
Ethnicity		
African American / Black	62	29.2
American Indian / Alaska Native	2	0.9
Asian	7	3.3
Hispanic / Latino	32	15.1
Caucasian / White	90	42.5
Multiple Hispanic	5	2.4
Multiple Non-Hispanic	14	6.6
Education Level		
No High School Diploma	16	7.5
High School Diploma	66	31.1
College ≤ Bachelor's (4-year) Degree	88	41.5
Graduate-level Degree	42	19.9
Education (Maternal)		
No High School Diploma	23	10.8
High School Diploma	77	36.3
College ≤ Bachelor's (4-year) Degree	78	36.7
Graduate-level Degree	27	12.7
Unknown	7	3.3
Education (Paternal)		
No High School Diploma	24	11.3
High School Diploma	36	17.0
College ≤ Bachelor's (4-year) Degree	51	24.1
Graduate-level Degree	37	17.5
Unknown	64	30.2

Table 1 (continued)

Variable	*n*	%
Income		
Unemployed - No Income	31	14.6
Less than $15,0000 per year	6	2.8
More than $15,000 but less than $30,000 per year	34	16.0
More than $30,000 but less than $50,000 per year	50	23.6
More than $50,000 but less than 75,000 per year	38	17.9
More than $75,000 but less than $100,000 per year	31	14.6
More than $100,000 per year	22	10.4
Age Range		
Between 18 and 68	212	100
Location		
Manhattan	79	37.3
Staten Island	8	3.8
Bronx	30	14.2
Queens	43	20.3
Brooklyn	43	20.3
Outside of NYC	6	2.8
No Response	3	1.4

Table 2 contains information relating to the health of survey respondents. Most respondents (135, 63.7%) reported having health insurance, this amounting to a little under two thirds of the total number of respondents. Slightly less than a third of all respondents (31.3%) had at some point in their lives received a positive diagnosis for HIV. Among these the great majority (62 of 66) reported that at some point their status had been undetectable, and 48 reported a current undetectable status. Almost one in two respondents (103, 48.8%) responded to the relevant survey question by reporting that they had received four or more STI diagnoses in the course of their lives. Just over a third (75) of those surveyed claimed never to have used any substances. A small majority of those surveyed (112, 53.3%) reported having been prescribed HIV medication at some point in their lives, and 91 respondents—or 80.5% of individuals who

had ever received a prescription for HIV medication(s)—reported having a current prescription for one or more medicine(s) used in the treatment or prevention of HIV.

Table 2. Health Characteristics

Variable	*n*	%
Health Insurance		
Yes	135	63.7
HIV Medication Prescription (ever)		
Yes	112	53.3
No	98	46.7
HIV Medication Prescription (current)		
Yes	91	80.5
Received a Diagnosis for HIV		
Yes	66	31.3
Undisclosed	16	7.6
Ever Achieved Undetectable Viral Loads		
Yes	62	93.9
Unknown	4	6.1
Currently Undetectable		
Yes	48	77.4
Unknown	10	16.1
Substances Ever Used		
1 Substance	71	33.6
2 Substances	32	15.2
3 Substances	20	9.5
4 or more Substances	13	6.2
Never Used Substances	75	35.5
Substances Currently Using		
1 Substance	84	70.6
2 Substances	23	19.3
3 Substances	6	5.0
4 or more Substances	6	5.0
Lifetime STI / STD Diagnoses		
1 or Fewer	38	18.0
Between 2 and 3	70	33.2
4 or More	103	48.8

Table 3 shows that nearly half (41.9%) of respondents having a current prescription for the treatment of HIV, indicated being self-funded while the other 58.1% indicated no out-of-pocket exposure for their medications. The funding source profile for prophylactic users of HIV medications was not significantly different. Half of prophylactic users either fully or partially self-funded their HIV medications while the other half indicated no out-of-pocket exposure for their medications. Medication adherence was significantly higher for prophylactic users. Whereas 66.7% of prophylactic users reported daily use of their HIV medications, just under half (32.3%) of respondents prescribed medications for the treatment of HIV reported daily use. Approximately a quarter of all users reported taking their medications on most days.

Table 3. Funding Source of HIV Medications

Funding Source of HIV Medication(s)	Treatment Users (n = 62)	Prophylactic Users (n = 24)
Self-Funded (partial)	0	2 (8.3%)
Self-Funded (full)	26 (41.9%)	10 (41.7%)
No Out-of-Pocket Exposure	36 (58.1%)	12 (50%)
Frequency of HIV Medication Use		
Every day	20 (32.3%)	16 (66.7%)
Most days	18 (29%)	6 (25%)
Sometimes	15 (24.2%)	0
Rarely	9 (14.5%)	2 (8.3%)

Table 4 shows information reported on the survey which related to the history of incarceration among respondents. Just over 87% (87.3%) of respondents had never been incarcerated. Among the 27 respondents who reported having a history of incarceration, just under half (13, 48.1%) reported only one stint of detainment while 11 (40.7%) reported being incarcerated more than once but fewer than five times and the remaining three (11%) indicated being jailed more than five times but few than 10 times. Less than three quarters (74.1%) of

respondents indicating a history of incarceration reported a period of incarceration of fewer than 30 days.

Table 4. Incarceration Experience

Variable	*n*	%
Incarceration History		
Yes	27	12.7
No	185	87.3
Incarceration (# of Times)		
One time only	13	48.1
More than 1 time, but less than 5 times	11	40.7
More than 5 times, but less than 10 times	3	11.1
Incarceration (Total Time)		
One day only	6	22.2
More than 1 day, but less than 5 days	9	33.3
More than 5 days, but less than 30 days	5	18.5
More than 30 days, but less than 1 year	6	22.2
More than 1 year, but less than 5 years	1	3.7

This study is concerned with the possible relationship between behavioral factors, race/ethnicity and health outcomes affecting respondents living with HIV. A key behavioral indicator was sexual identity and Table 5 recorded a majority of respondents (55.7%) self-identifying as homosexual. Among these, almost all (92%) reported having been sexually active in the 12 months prior to completing the survey. Among the total pool of respondents, one quarter (53) reported that they never ask for an HIV status disclosure from their sexual partner(s), and a slightly higher number (61, 28.9%) reported that they never disclose their own status to their sexual partner(s). In terms of the routine use of protection, the largest group of respondents indicated that they always used protection, however this remained a minority position, with only 58 respondents (27.4%) selecting this option.

Table 5. Sexual Characteristics and Behaviors

Variable	*n*	%
Sexuality		
Asexual (celibate)	1	0.5
Bisexual	78	36.8
Heterosexual (straight)	10	4.7
Homosexual (gay)	118	55.7
Other	5	2.4
Homosexual Experience (Ever)		
Yes	211	99.5
Homosexual Experience (Last 12 Months)		
Yes	195	92.4
Frequency of Protection Use		
Never	22	10.4
Sometimes	51	24.2
About half the time	33	15.6
Most of the time	47	22.3
Always	58	27.5
Proactively Ask About Partners' HIV Status		
Never	53	34.6
Sometimes	35	22.9
About half the time	12	7.8
Most of the time	24	15.7
Always	29	18.6
Proactively Disclose HIV Status		
Never	61	39.9
Sometimes	35	22.9
About half the time	7	4.6
Most of the time	13	8.5
Always	37	24.2

4.2 Analyses of Research Questions

4.2.1 Analysis of Research Question 1

Research Question 1 was framed as follows: *To what degree do MSM who are HIV negative take HIV medication for preventative purposes?* Table 6 records the descriptive

statistics compiled in order to address this question and it shows that 18.6% of respondents who were HIV negative also reported a current prescription for HIV medication.

Table 6. Current HIV Prescriptions Among HIV Negative Respondents

Variable	*n*	%
HIV Medication Prescription (current)		
Yes	24	18.6

4.2.2 Analysis of Research Question 2

Research Question 2 was framed as follows: *To what degree do MSM who are HIV positive misrepresent their HIV status to their sexual partners?* Descriptive statistics and chi-square analyses were conducted in order to resolve Research Question 2. Chi-Square analysis for misrepresentation of HIV status and the reasons respondents selected for misrepresenting their status are presented in Table 7. Just over half (57.6%) of HIV-positive respondents, reported that they had misrepresented their HIV status to a sexual partner by claiming to be HIV negative when, in fact, their condition had already been diagnosed. Among several possible reasons for not disclosing one's status to sexual partners, responses that were selected the fewest number of times were "I'm undetectable, so they can't catch it from me" (13, 21%) and "My HIV status is personal, but if a partner asks me about it, I will disclose my status (13, 21%). The most commonly selected reason was "My partners are adults; it is their responsibility to use protection when having sex. It is not my obligation to protect them" (25, 40.3 %).

Table 7. Observed Frequencies for Analyses of Reasons for Misrepresentation of HIV Status

Dependent Variable	Misrepresent Status (n = 37) Yes	χ^2	*df*	*p*
I'm Undetectable.				
No	24 (38.7%)	0.07	1	.798
Yes	13 (21%)			
Probably HIV+ Themselves				
No	13 (21%)	22.97	1	<.001
Yes	24 (28.7%)			
They Are Adults.				
No	12 (19.4%)	15.94	1	<.001
Yes	25 (40.3%)			
If They Ask, I'll Disclose				
No	24 (38.7%)	0.00	1	.944
Yes	13 (21%)			
Probably Won't See Them Again				
No	13 (21%)	16.96	1	<.001
Yes	24 (38.7%)			

4.2.3 Analysis of Research Question 3

Research Question 3 was framed as follows: *Does race/ethnicity significantly predict medication funding among MSM?* In order to address this, a binary logistic regression was conducted which treated race/ethnicity as the independent variable and medication funding as dependent. The overall regression model thus generated was significant, $\chi2(1) = 5.43$, $p = .020$, indicating that race/ethnicity significantly predicted medication funding. The calculation showed that African American or Hispanic respondents were just 0.37 times as likely (less likely) to be

self-funded when compared to respondents who classified themselves as belong to another racial/ethnic group. This analysis made it possible to once more reject the null hypothesis ($H3_0$). Table 8 displays the results for the individual regression coefficients.

Table 8. Binary Logistic Regression Predicting Medication Funding

Variable	Estimate	Std. Error	Wald	*df*	Sig.	OR
Ethnicity (AA or Hispanic)	-1.01	0.44	5.23	1	.022	0.37

4.2.4 Analysis of Research Question 4

Research Question 4 was framed as follows: *Does medication funding significantly predict medication adherence among MSM?* For the purposes of conducting an ordinal logistic regression to address this question, medication funding was designated the independent variable and was coded as dichotomous, on the basis that respondents could be classified only as either *self-funded* or *not self-funded*. Medication adherence was treated as the dependent variable. The overall regression model was significant, $\chi 2(1) = 23.84$, $p < .001$, indicating that funding significantly predicted medication adherence. Participants who were not self-funded were shown to be 0.13 times as likely (less likely) to display higher levels of medication adherence when compared to those who were self-funded. It was thus once again appropriate to disregard the null hypothesis ($H4_0$). Table 9 displays the results for the individual regression coefficients.

Table 9. Ordinal Logistic Regression Predicting Medication Adherence

Variable	Estimate	Std. Error	Wald	*df*	Sig.	OR
Medication funding (not self-funded)	-2.03	0.44	20.88	1	< .001	0.13

4.2.5 Analysis of Research Question 5

Research Question 5 was framed as follows: *Does race/ethnicity significantly predict medication adherence among MSM?* In order to answer this, based on the collected data, an ordinal logistic regression was used in which race/ethnicity was treated as the independent

variable and coded as dichotomous, with respondents categorized as either African American/black or Hispanic/Latino versus any other race/ethnic group. Medication adherence was coded as the dependent variable. The overall regression model was significant, $\chi2(1) = 23.51$, $p < .001$, indicating that race/ethnicity significantly predicted medication adherence. As an individually significant predictor, this racial/ethnic variable indicated that those self-identifying as African American or Hispanic were 0.14 times as likely (i.e., less likely) as members of other racial/ethnic groups to display higher levels of adherence to the medication regimens prescribed to them. These data supported the positive hypothesis ($H5_a$) and is displayed in Table 10.

Table 10. Ordinal Logistic Regression Predicting Medication Adherence

Variable	Estimate	Std. Error	Wald	*df*	Sig.	OR
Ethnicity (AA or Hispanic)	-1.99	0.43	21.03	1	< .001	0.14

4.2.6 Analysis of Research Question 6

Research Question 6 was framed as follows: *Do racial/ethnic groups significantly differ in terms of education, income, insurance, incarceration experience, and sexual preference among MSM?* The appropriate analytical tool for resolving this was a series of chi-square tests of independence. The independent variable (race/ethnicity) was analyzed in the context of several dependent variables, namely: level of education, level of income, whether the respondent had health insurance, how the respondent identified in terms of sexual preference, and whether the respondent had at any time been an inmate in a penal institution. The chi-square test for educational attainment was significant, $\chi2(6) = 60.62$, $p < .001$, indicating that African American and Hispanic respondents significantly differed from others in respect of the level of education they had attained. The chi-square test for income was also significant, $\chi2(6) = 59.25$, $p < .001$, indicating that African American and Hispanic respondents significantly differed from other

respondents in terms of income level. The chi-square test for health insurance was significant, $\chi2(1) = 32.91$, $p < .001$, indicating that African American and Hispanic respondents significantly differed from others in terms of whether or not they were likely to have health insurance. The chi-square test for incarceration, however, was not significant, $\chi2(3) = 5.38$, $p = .146$, indicating that African American and Hispanic respondents did not significantly differ from others in incarceration experience and that this could therefore be discounted for this specific sample as a factor which varies in direct relation to race/ethnicity. The chi-square test for sexual preference was significant, $\chi2(4) = 27.95$, $p < .001$, indicating that African American and Hispanic respondents significantly differed from others in sexual preference. Notwithstanding the lack of significance in the chi-square test relating specifically to incarceration, the null hypothesis ($H6_0$) was rejected on the basis that the alternative hypothesis ($H6_a$) more accurately reflected the discernable trends in the data. Table 11 displays the observed frequencies for the chi-square analyses.

Table 11. Observed Frequencies for Chi-Square Analyses of Race/Ethnicity

	Race/Ethnicity *n* (%)	
Dependent Variable	African American or Hispanic	Other
Education Level		
No High School Diploma*	15 (15.2%)	1 (0.9%)
High School Diploma*	49 (49.5%)	17 (15%)
Some College (No Degree)	13 (13.1%)	18 (15.9%)
Associates (2-year) Degree*	4 (4%)	12 (10.6%)
Bachelors (4-year) Degree*	11 (11.1%)	30 (26.5%)
Master's-level Degree*	5 (5.1%)	32 (28.3%)
Doctorate Degree	2 (2%)	3 (2.7%)

Table 11 (continued)

Dependent Variable	Race/Ethnicity *n* (%)	
	African American or Hispanic	Other
Income		
Unemployed - No Income*	24 (24.2%)	7 (6.2%)
Less than $15,0000*	4 (4%)	2 (1.8%)
More than $15,000 but less than $30,000*	28 (28.3%)	6 (5.3%)
More than $30,000 but less than $50,000	25 (25.3%)	25 (22.1%)
More than $50,000 but less than 75,000*	11 (11.1%)	27 (23.9%)
More than $75,000 but less than $100,000*	5 (5.1%)	26 (23%)
More than $100,000*	2 (2%)	20 (17.7%)
Health Insurance		
Yes*	43 (43.4%)	92 (81.4%)
No*	56 (56.6%)	21 (18.6%)
Incarceration		
Never	82 (82.8%)	103 (91.2%)
One time only.	7 (7.1%)	6 (5.3%)
More than 1 time, but less than 5 times	7 (7.1%)	4 (3.5%)
More than 5 times, but less than 10 times	3 (3%)	0 (0.0%)
Sexuality		
Asexual (celibate)	0 (0.0%)	1 (0.9%)
Bisexual*	50 (50.5%)	28 (24.8%)
Heterosexual (straight) *	9 (9.1%)	1 (0.9%)
Homosexual (gay) *	38 (38.4%)	80 (70.8%)
Other	2 (2%)	3 (2.7%)

Note. *Indicates a statistically significant difference ($p < .05$) in the dependent variable category based on race/ethnicity.

4.2.7 Analysis of Research Question 7

Research Question 7 was framed as follows: *Does race/ethnicity significantly predict behaviors associated with sexual health maintenance (misrepresentation of HIV status, use of protection, asking about partner HIV status, and disclosing own HIV status) among MSM?* In seeking to determine this, a number of logistic regressions were conducted, treating race/ethnicity as the independent variable in each case and relating it to the following dependent

variables: misrepresentation of HIV status, use of protection, disclosing one's own HIV status, and requesting a disclosure of one's partner's HIV status. The overall regression model predicting misrepresentation of HIV status was significant, $\chi2(1) = 8.93$, $p = .003$, demonstrating a relationship between race/ethnicity and misrepresentation in which African American or Hispanic individuals were 4.98 times as likely (i.e., more likely) to misrepresent their status to their sexual partners. In relation to protection use, a similar relationship was demonstrated. The overall regression model predicting use of protection was again significant, $\chi2(1) = 47.38$, $p < .001$. African American or Hispanic individuals were shown to be less likely (specifically, 0.17 times as likely) to use protection with a high frequency. The overall regression model predicting asking partner status was also significant, $\chi2(1) = 45.40$, $p < .001$, demonstrating a predictive link between race/ethnicity and the likelihood that a respondent would routinely seek a HIV status disclosure from a sexual partner. These data show that African American and Hispanic respondents were 0.12 times as likely to seek such a disclosure, compared with members of other racial/ethnic groups, that is, they were markedly less likely to do so. Lastly, the overall regression model predicting disclosing a respondent's own HIV status was significant, $\chi2(1) = 54.46$, $p < .001$, indicating that race/ethnicity significantly predicted disclosing one's own status. In this case the disparity among racial/ethnic groups was especially dramatic, with African American or Hispanic individuals 0.09 times as likely (less likely) to ask for disclosures with high frequency. These analyses support the positive hypothesis ($H7_a$) that race/ethnicity is a significant characteristic in predicting likely behaviors relating to sexual health maintenance. Table 12 displays the results for the individual regression coefficients for race/ethnicity for each regression.

Table 12. Individual Regression Coefficients for Race/Ethnicity

Dependent Variable	Estimate	Std. Error	Wald	*df*	Sig.	OR
Misrepresentation	1.61	0.56	8.33	1	.004	4.98
Use of protection	-1.79	0.27	43.51	1	< .001	0.17
Ask partner status	-2.16	0.34	41.27	1	< .001	0.12
Disclose own status	-2.42	0.35	47.78	1	< .001	0.09

4.2.8 Analysis of Research Question 8

Research Question 8 was framed as follows: *Do demographic and behavioral factors significantly predict the reasons why MSM may not disclose their HIV status to their sexual partners?* Several independent variables were relevant here, namely: race/ethnicity, current medication use and adherence, status of RNA level suppression, stated sexual preference, use of protection, propensity to ask a partner to disclose their HIV status, age, level of income and level of education. The dependent variables examined through a series of binary logistic regressions related to the reasons why respondents did not disclose their HIV status to their sexual partners. These were coded dichotomously indicative of whether respondents either selected or did not select a specific reason. The variables were entered into each model using a forward stepwise procedure, resulting in a unique final set of predictors for each dependent variable. Prior to undertaking analysis of these data, the predictor variables were checked for multicollinearity by calculating variance inflation factors. All predictors had variance inflation factors less than 10 (Min = 1.13, Max = 4.26), indicating that there was no severe multicollinearity.

Respondents to the survey were provided with five possible reasons to explain their refusal to disclose their HIV status to a sexual partner. The first of these, “I’m undetectable”, was significant $\chi2(3) = 27.25$, $p < .001$, showing that the selected independent variables significantly predicted whether or not respondents selected this reason. Among these, race/ethnicity was shown to be an individually significant predictor, $p = .008$, OR = 5.71, demonstrating that

African American or Hispanic respondents were 5.71 times as likely (more likely) to select this option compared with individuals belonging to other racial/ethnic groups.

The final model predicting the response “Most of the guys I meet are probably HIV+ themselves” was also significant $\chi 2(3) = 31.55$, $p < .001$, indicative of the selected independent variables predicting whether or not respondents selected this reason. In this case, a disclosed undetectable status (i.e., an answer of “Yes”) and level of education were both identified as individually significant predictors. Undetectable status (Yes) was an individually significant predictor, $p = .026$, OR = 0.13, indicating that respondents who were undetectable were 0.13 times as likely (less likely) as those who did not know their status to select this as a reason. Undetectable status (No) was an individually significant predictor, $p = .025$, OR = 0.04, indicating that respondents who were not undetectable were 0.04 times as likely (less likely) as those who did not know their status to select this as a reason. Educational attainment was an individually significant predictor, $p = .001$, OR = 0.38, demonstrating that with every increase in education level respondents were 0.38 times as likely (less likely) to select this reason for non-disclosure, indicating that higher educational attainment functioned as an individually significant predictor for rejecting this reason.

The final model predicting “My partners are adults” was significant $\chi^2(6) = 34.76$, $p < .001$, indicating that the selected independent variables significantly predicted whether or not respondents selected this reason. Race/ethnicity was an individually significant predictor, $p = .015$, OR = 6.42, with African American or Hispanic respondents being 6.42 times as likely as respondents in other racial/ethnic groups to select this as a reason for non-disclosure.

No variables met the significance criteria (alpha = .05) to be entered into the model predicting “My HIV status is personal.” Consequently, there is no evidence to support the

suggestion that any of the criteria surveyed in this study have a predictive bearing on respondents' likelihood of providing this reason for non-disclosure.

The reason "I'll probably never see these guys again" sometimes given for non-disclosure of HIV status was similarly analyzed in connection with the same set of independent variables. The final model predicting this response was significant $\chi2(5) = 24.39$, $p < .001$, indicating that the selected independent variables significantly predicted whether or not respondents selected this reason. Age was an individually significant predictor, $p = .035$, OR = 0.69, indicating that with each increase in age group, respondents were 0.69 times as likely (i.e., less likely) to select this as a reason. The null hypothesis ($H8_0$) was rejected. Table 13 displays the results for the significant individual regression coefficients for each model.

Table 13. Binary Logistic Regressions Predicting Reasons to Misrepresent HIV Status

Variable	Estimate	Std. Error	Wald	*df*	Sig.	OR
Reason: "I'm undetectable"						
Ethnicity (AA or Hispanic)	1.74	0.66	6.93	1	.008	5.71
Reason: "Most of the guys I meet are probably HIV+ themselves"						
Undetectable (Yes)	-2.06	0.93	4.94	1	.026	0.13
Undetectable (No)	-3.19	1.42	5.04	1	.025	0.04
Education	-0.97	0.28	11.55	1	.001	0.38
Reason: "My partners are adults"						
Ethnicity (AA or Hispanic)	1.86	0.77	5.87	1	.015	6.42
Reason: "My HIV status is personal"						
No significant predictors						
Reason: "I'll probably never see these guys again"						
Age	-0.37	0.18	4.43	1	.035	0.69

Note. Only significant predictors in final step of forward stepwise procedure are displayed.

Table 14 displays a cross tabulation of misrepresentation of HIV status with the reasons given to account for the misrepresentation. Proportionally, the reason most commonly selected by African American and Hispanic respondents was "My partners are adults; it is their

responsibility to use protection when having sex. It is not my obligation to protect them" (n = 52).

Table 14. Crosstabulation of Race/Ethnicity with Reasons to Misrepresent HIV Status

	Race/Ethnicity	
Reason	African American or Hispanic (%)	Other (%)
"I'm undetectable"		
No	79 (38.7%)	102 (50%)
Yes	16 (7.8%)	7 (3.4%)
"Most of the guys I meet are probably HIV+ themselves"		
No	66 (32.4%)	105 (51.5%)
Yes	29 (14.2%)	4 (2%)
"My partners are adults"		
No	43 (21.1%)	95 (46.6%)
Yes	52 (25.5%)	14 (6.9%)
"My HIV status is personal"		
No	75 (36.8%)	92 (45.1%)
Yes	20 (9.8%)	17 (8.3%)
"I'll probably never see these guys again"		
No	48 (23.5%)	98 (48%)
Yes	47 (23%)	11 (5.4%)

4.2.9 Analysis of Research Question 9

Research Question 9 was framed as follows: *Do race/ethnicity, age, education, income, and incarceration experience significantly predict having health insurance among MSM?* Addressing this required a binary logistic regression, treating the issue of whether a given respondent had health insurance (yes or no) as the dependent variable. This was analyzed in connection with a range of independent variables, specifically: the respondent's age, race/ethnicity, level of income, level of education, and history of incarceration. As was the case for resolving Research Question 8, a stepwise procedure was used when entering variables into

this regression model. Prior to undertaking this analysis, the predictor variables were checked for multicollinearity by calculating variance inflation factors. All predictors had variance inflation factors less than 10 (Min = 1.11, Max = 2.88), indicating that there was no severe multicollinearity.

The final model predicting health insurance was significant χ^2 (2) = 100.83, $p < .001$, indicating that the selected independent variables significantly predicted whether or not respondents had health insurance. There were two individually significant predictive variables, namely level of education and history of incarceration. Education was an individually significant predictor, $p < .001$, OR = 2.68, indicating that with each increase in education level, respondents were 2.68 times as likely (i.e., more likely) to have health insurance. Incarceration was an individually significant predictor, $p = .003$, OR = 0.27, indicating that with each increase in level of incarceration experience, respondents were 0.27 times as likely (i.e., less likely) to have health insurance. The null hypothesis ($H9_0$) was rejected. Table 15 displays the results for the individual regression coefficients.

Table 15. Binary Logistic Regression Predicting Health Insurance

Variable	Estimate	Std. Error	Wald	*df*	Sig.	OR
Education	0.99	0.15	42.52	1	< .001	2.68
Incarceration	-1.32	0.45	8.61	1	.003	0.27

4.3 Summary

The cumulative impression generated by these analyses is that for each research question there was strong evidence for rejecting the null hypothesis in favor of the view that specific demographic and behavioral characteristics function as reliable predictors of health outcomes. The correlations relating these factors are complex, and caution should be taken not to erroneously assume causality. Nevertheless, the variety of tests applied and the consistency of

the results produced appear to indicate a common trend. Socioeconomic and demographic factors were most frequently examined and the hypotheses which connect these to health outcomes were consistently accepted, while the null hypotheses were rejected for each of the nine questions that were under consideration.

Chapter 5: Discussion of Results

On an international scale, policymakers, community-based organizers, academic investigators and others have prioritized the identification of methods for reducing new infections of HIV for people in all demographic categories. Successive administrations in the United States have gone further by enshrining health promotion and disease prevention in the mandate of federal bodies like the Centers for Disease Control and Prevention (CDC) and legislation like the Patient Protection and Affordable Care Act (PPACA) of 2010. Despite the obvious sense of urgency and commitment to taking proactive measures wherever possible which has resulted in overall worldwide reductions of new HIV infections, domestic health policy presently appears to lack a specifically targeted goal aimed at reducing new HIV infections among the priority populations of MSM identifying as African American and/or Hispanic. While the term *priority populations* is commonly used by academics and policymakers, the mere identification of these groups can serve as no more than a necessary precondition to the development of targeted policy which directly improves health outcomes for those Americans who have been so-designated. To date, such policy has not been specifically productive for the sub-group examined here.

The health disparity which currently exists in the U.S. can be illustrated by examining statistical data pertaining to MSM identifying as Caucasian/white and those of mixed race; both groups currently experience average annual rate declines for new infections of HIV registering at 2.59% and 4.57%, respectively. While African American and Hispanic MSM experienced significant increases in 2014 (of 4.04% and 8.82%, respectively), Caucasian/white and mixed race MSM registered respective declines of 0.96% and 12.49% in the same year. The causes of these dissimilarities have been a major topic of community and public health discourse over the

years; however, such accounts as have been previously advanced have largely centered on environmental, socioeconomic and cultural realities experienced by MSM identifying as African American or Hispanic, instead of focusing on behavioral-level differences in sexual communication and sexual health decision-making.

This distinction is important, particularly in light of our evolving understanding of race and ethnicity as social rather than biological categories. Moreover, while socioeconomic constraints might reasonably be expected to correlate with poorer health outcomes, there is no reason to assume that they alone can account for the sustained disparity along racial/ethnic lines. It is now widely understood that behavioral patterns both reflect and contribute to the social distinctions which persist in distinguishing between Americans who self-identify as belonging to the African American or Hispanic demographic groups and Caucasian/white Americans. Without a thorough examination of these factors and their possible impact on the health outcomes for priority populations living with or vulnerable to HIV, it will remain impossible to generate comprehensive and effective policy in this area.

5.1 Summary of the Findings

This study collected a range of data from self-selecting individuals residing in the New York City metropolitan area. Individuals were recruited for the study through an advertising campaign through online forums and geospatial applications focused on the MSM demographic group. A number of good faith assumptions were made about the intentions behind respondents' desire to submit data to this survey. Data entry was accomplished using a bespoke online instrument designed for this purpose. Data gathering was done pursuant to proper legal and ethical standards, and the purposes for which these data were being gathered were communicated

to respondents via a landing page which required them to give informed consent prior to participating in the study. Individuals were treated as anonymous by the survey.

Data were gathered from a response pool of 212 and were analyzed in response to nine research questions with a view to proving or disproving a series of hypotheses which linked demographic characteristics and behavioral indicators to health outcomes. The stated intention of the study was to provide data and analysis which would be of value in the formulation of policy to specifically target priority populations of African American and Hispanic MSM whose health outcomes in relation to HIV are significantly and consistently at variance with trends in the broader population. Of particular note was the fact that between 2008 and 2016, the overall rate of new diagnoses of HIV across all demographic groups declined by 17.7%; however, during the same period and subsequently, research indicates that the incidence of new diagnoses within these priority populations increased. Significantly, therefore, it is not the case that health outcomes among African American and Hispanic MSM in relation to HIV are improving at a slower rate than for the population as a whole, but rather that these outcomes are becoming worse at the same time as similar outcomes for other demographic groups are becoming better.

The object of this study was first to establish whether this relationship is causal and not coincidental. Whereas race and ethnicity have often featured heavily in journalistic and academic commentaries on health disparities in the United States, it has not previously been established that behavioral indicators play a similarly important role. Respondents to this survey volunteered a combination of demographic and medical data and information about their own behavioral patterns. Certain limitations, largely associated with the outbreak of the novel coronavirus known as COVID-19 in the first part of 2020, restricted the scope of this study and required that elements of it be redesigned. A more limited scope than that which had been initially planned

required the elimination of certain provisions like non-English language sampling materials and a qualitative component, which might usefully be reintroduced were a subsequent study to explore these matters further.

The research questions specified for this study examined a variety of demographic data relating to the race/ethnicity of respondents, their age, income, and level of education. Data were also gathered about their HIV status and broader medical history. Additionally, behavioral information was gathered in relation to the frequency with which respondents self-reported engaging in specific sexual and health-focused practices. These included sexual intercourse with men (asexual or celibate people's data did not fall within this scope of this study), the use of protection during sexual activities, disclosure of their HIV status to sexual partners and requesting such a disclosure from their sexual partners. Further information was gathered in relation to whether or not the HIV status of respondents could be classified as undetectable, and whether it had ever been so-classified in the past. Respondents were invited to select from a set of pre-scripted responses any that they themselves had used to justify non-disclosure of their HIV status to sexual partners. The survey also requested information about any history of incarceration which they had.

These data, and the instrument for collecting them, were chosen and designed specifically to address the nine research questions specified by this researcher. Additional information might have been gathered in order to provide a more comprehensive impression of respondents. Additionally, more specific information might have been gathered by, for instance, inviting respondents to specify their exact annual salary rather than select the bracket into which they fall. Such granular detail was resisted on the basis that this study was concerned to identify trends and patterns of causation which relate to significant differences in income, penal history, medical

adherence, and so on. The research methodology recognizes that this is a broad area of study and supplementary studies are likely to be of benefit to policymakers. In the context of the COVID-19 pandemic, the scope of this study was limited to New York City, and it is important not to overgeneralize the conclusions drawn to the U.S. population as a whole. For instance, internet access and literacy was reported to be high among respondents, but this might not be the case in other parts of the country. Likewise, certain behaviors might be locally as well as culturally conditioned.

Analysis of the results revealed several statistically significant relationships between independent variables, including race/ethnicity, level of education and history of incarceration, and dependent variables including adherence to medical prescriptions and use of protection during sexual activity. Specifically, the data revealed a substantially lower likelihood of adhering to medical instructions among African American and Hispanic respondents when contrasted with members of other racial/ethnic groups. Additionally, these data showed that race/ethnicity did act as a predictor for behaviors associated with sexual health, including use of protection and disclosure of HIV status. Access to funding for healthcare was shown to significantly predict medication adherence, meaning that respondents self-reported a higher likelihood or following medical instructions in the event that their treatment was paid for (for instance, by an insurance provider), and it was further shown that race/ethnicity acted as a reliable predictor for whether a given individual was more or less likely to be in a position to fund their own medical care. More than half of HIV-positive respondents surveyed (57.6%) reported that they had misrepresented their HIV status to a sexual partner, with the most commonly reported reason for doing so being expressed through the lens of their partners being adults and having responsibility for protecting

themselves from infectious diseases during sex and of their lack of obligation to take steps to protect their sexual partners.

Additional information gleaned from analysis of the findings included the fact that African American and Hispanic respondents reported themselves to be 5.71 times as likely to justify non-disclosure of their HIV status to a sexual partner on the basis of their status being undetectable compared to respondents from other racial/ethnic groups. This same demographic reported themselves to be 6.42 times as likely as members of other racial/ethnic groups to use the reason “My partners are adults…” as sufficient justification for not disclosing their HIV status to a partner. Additional noteworthy results included the fact that respondents were 2.68 times as likely to have health insurance compared to those who were one rung lower on the ladder of educational attainment. Finally, in relation to the possibility that MSM who are HIV negative might use HIV medication prophylactically, this study recorded 18.6% of respondents who had not tested positive for HIV but who nevertheless maintained a current prescription of HIV medication at the time they completed the online survey.

5.2 Interpretation of the Findings

5.2.1 Demographic Differences

Since the foundation of the United States of America as an independent nation, race and ethnicity have had a bearing on the standard of living enjoyed by its citizens. Whether that is measured in terms of life-expectancy (Williams et al., 1994) or health outcomes (Williams et al., 1997) examined over time, the literature supports claims of systemic disadvantage for Americans belonging to racial/ethnic minority groups. These differences are not symmetrically distributed throughout the country, and therefore the results of the present study may not be relevant to the precise nature or extent of disadvantage experienced by racial/ethnic minority groups located

elsewhere (for instance, in less built-up urban environments). What they do reveal, however, is that in the case of the New York City metropolitan area, race and ethnicity may be used to reliably predict disparities in educational attainment, level of income and health outcomes. These data are unsurprising in the context of earlier studies like Williams et al. (1997), which demonstrated that race/ethnicity is the single most important criterion for predicting an American citizen's SES. What is significant is that this should remain true for a relatively small population in a particularly wealthy city and the financial center of the nation. Moreover, more than two decades have passed since the Williams study, but data gathered here suggest that whatever progress may have been achieved, race/ethnicity continues to correlate to an alarming extent with lower standards of living, even in a wealthy coastal city.

A significant cause of disparity in educational attainment between different racial/ethnic groups is parental educational achievement. This same disparity is reflected in the results of the present study, with 40.3% of respondents who identified as African American/black and 62.5% of respondents who identified as Hispanic/Latino indicating that they did not know the highest educational attainment of their paternal parental figures, while only 12.2% of their Caucasian/white counterparts offered the same response. There is every reason to suppose that formal education has a bearing on health literacy (Ali et al., 2018), and parental support is widely credited by educators as a reason why certain students attain higher proficiency in their studies when compared to their classmates. Nearly half (45.2%) of African American/black respondents and almost two-thirds (59.4%) of Hispanic/Latino respondents surveyed for the present study cited the high school diploma as the highest level of education for their mothers or maternal figures. The figure for white/Caucasian respondents was much lower (26.7%), and this compounds the disparity already identified in relation to paternal educational attainment and

competence to support learning in a child. The picture painted by this study is one in which educational outcomes are largely constrained by parental figures who lack the capacity to support their children's learning. Such parental figures were much more commonly associated with African American/black and Hispanic/Latino respondents than with white/Caucasian respondents. Poor educational outcomes, moreover, create a two-fold challenge for members of these minority demographic groups: they emerge from the education system with limited health literacy and, as this study has shown, they go on to be significantly less likely to have health insurance than their white/Caucasian counterparts.

Poverty is a major limiting factor in terms of living standards and health outcomes, and has been widely shown to disproportionately affect members of the African American/black and Hispanic/Latino minority groups living in the United States (Williams et al., 2016). This study confirms that these groups continue to experience disadvantages linked to their allostatic load (McEwan & Stellar, 1993), noting a significant difference between the proportion of respondents belonging to these groups who were in a position to self-fund their medical care and the position of respondents as a whole. The data are stark, indicating that a respondent was nearly three times as likely to self-fund if they were neither African American/black nor Hispanic/Latino. Coupled with the finding that medication funding reliably predicts medication adherence, this difference between members of the target population for this study and respondents as a whole suggests a population being let down by a system which restricts their educational opportunities and then compounds this restriction by disincentivizing them from undertaking the same strict medical regimen which predicts better outcomes for members of other demographic groups.

Health literacy is one thing and medical adherence another. Previous studies have indicated that behavior which tends towards positive outcomes can be negatively impacted by

the perception that the subject is socially disadvantaged through no fault of their own, that is, on account of their demographic characteristics and related educational constraints (Williams et al., 2003). Confidence in navigating the healthcare system, asking questions, and behaving proactively to prevent infection with a condition such as HIV or an STI is more frequently displayed by Americans with relatively high levels of education and SES. It is a reasonable hypothesis to suppose that households in which one or both parents manifest such a status will raise children who are more confident and competent to pursue prevention rather than rely on treatment. In light of this, the present study's finding that only 18.6% of HIV negative respondents took medication preventatively is alarming. Of course, in specific cases a respondent might have underlying conditions which restrict the medication which can be prescribed to them, but since the survey was directed at MSM who remain a high-risk group for HIV infection, a higher percentage take-up of preventative medicines might reasonably have been expected. Coupled with this, the disparity in reported use of protection between respondents who had already acquired an STI and those who had not suggests that levels of health literacy among MSM of all ethnicities continue to be sub-optimal. Ideally, protection would be used routinely by all sexually active persons vulnerable to infection, and particularly within this high-risk group.

5.2.2 Sexual Health Communication

Data gathered in this study reflect a number of behaviors which increase the risk to MSM of contracting STIs or becoming HIV-positive. As noted above, these were shown to be significantly more prevalent among African American/black and Hispanic/Latino respondents. This finding is unsurprising, in that members of these demographic groups, especially those with low SES, have elsewhere been found to demonstrate greater propensity to high-risk behaviors including overeating, poor exercise habits and unsafe driving (Factor et al., 2013). Limited

awareness of the risks incurred by these behaviors, linked to health literacy (notably lower among this same group), is undoubtedly a factor. The present survey noted that African American or Hispanic respondents were 0.14 times as likely as members of other groups to display higher levels of medication adherence. This is a dramatic figure, suggesting that for every respondent who did not fit these demographic criteria and demonstrated poor medication adherence there were seven African American or Hispanic respondents who manifested similar high-risk behavior.

Stress is one factor which inhibits individual competence in relation to following instructions given by a doctor or health worker. James et al. (2006) demonstrated that African Americans with low SES were twice as likely as any other group to suffer from hypertension, but Brewer et al. (2013) produced evidence that members of this same group were among the least likely in American society to comply with the antihypertensive treatments prescribed to them. In other words, both the poor health outcome and the behavior which exacerbated it correlated with the demographic and socioeconomic characteristics of the subjects. The present study has identified a similar correlation. Just as African American/black and Hispanic/Latino MSM are at greater risk of contracting STIs or HIV, so too members of these groups displayed significantly less caution in how they conduct themselves with sexual partners.

The salient data here were largely gathered in relation to Research Question 7, which recorded that African American or Hispanic individuals were 4.98 times as likely to misrepresent their HIV status to others as other respondents. The data alone do not explain this disparity, but contributory factors which may help to account for it include cultural differences stratified along demographic lines. For instance, the social stigma which mitigates against disclosing an HIV+ status to a sexual partner may provoke or exacerbate hypertension, a condition already

disproportionately experienced by African American and Hispanic people in the United States. A more significant cause may be psychological. If an individual believes themselves to be the subject of discrimination or prejudice on account of race, and if this perception inflects their daily behavior and experience in other contexts, it follows that this same perception is likely to make them reluctant to disclose information which might appear to substantiate the basis upon which such discrimination is founded. Williams et al. (2003) have made the point that the perception of discrimination may be just as much a cause of high-risk behavior as any objectively measurable form of discrimination. A further cause for concern is that without elucidation of this phenomenon, MSM coming from racial/ethnic minority backgrounds may not be consciously aware that this factor is affecting their behavior and, consequently, their health.

The reluctance to routinely use protection while engaging in sexual activity (African American or Hispanic individuals were shown to be only 0.17 times as likely as other respondents to use protection with a high frequency) correlates with a more general propensity to high-risk behavior among this group (Delva et al., 2005). Poor health literacy is one available explanation for low rates of compliance with the public health advice to use protection, but cultural factors are likely to compound the problem. The response “My partners are adults” to a line of questioning about deliberate misrepresentation of a respondent’s HIV status, either through falsehood or failure to disclose, may stem from the same factors. This response was most widely reported by members of the target minority groups. We know that MSM are disproportionately vulnerable to the negative health impacts associated with social stigma (Balaji et al., 2016), but the results of this study confirm that African American/black and Hispanic/Latino MSM are significantly more vulnerable still when compared to their white/Caucasian counterparts. The justification for non-disclosure “My partners are adults” is not

derived from any medical understanding, but instead implies a shifting of responsibility from the respondent to their partner(s). This may reflect cultural expectations which pertain to their upbringings, and suggests underlying systemic factors.

The result for Research Question 7 which demonstrated that African American/black and Hispanic/Latino MSM were 0.17 times as likely to use protection reliably indicates the scale of the problem. Once again, these various responses point to an intersection between underling medical disadvantage (note that the likelihood of a respondent having medical insurance could be predicted based on race/ethnicity) and compounding behavioral factors to increase the spread of HIV within these ethnic minority communities. Recent studies indicate that in metropolitan centers like New York City, it is not a lack of access to contraception that accounts for low rates of use but rather behavioral choices often based on sensation and a sense of stigma (Hill et al., 2014).

While behavioral factors clearly play a part in accounting for the increased likelihood of HIV transmission among the target demographic, it is important to account for these on the basis of social, economic and cultural circumstances particular to this group. The relative lack of health insurance among African Americans/black people and Hispanic/Latino people when compared Caucasian/white people (Williams et al., 2015) clearly plays a part in the disparity of outcomes, but SES also has wider implications for behavior. The poorest men in the U.S. tend to experience more extreme negative health outcomes than the poorest women (Williams, 2003), and within this category MSM are among the most vulnerable, as a propensity towards one kind of high-risk behavior often correlates with propensities to others (Kaplan et al., 2016), thus compounding the problem. It may not be too much of a stretch to suggest that the term *casualization* which is now widely used to describe instability in the workforce is also applicable

to the conduct of sexual relationship within a group which experiences the negative impacts of this instability of employment, housing and community most acutely. The lack of consistency in using condoms to prevent STI and HIV spread, coupled with the significantly higher rates of misrepresenting a positive HIV status within this group are likely to be influenced by social stigma, both real and perceived, lack of targeted community support and a sense of living life within a system which values competition over collaboration and treats individuals as disposable.

Similar factors are likely to have a bearing on the reported unwillingness of respondents from African American/black and Hispanic/Latino backgrounds to seek a disclosure of HIV status from a sexual partner. Although the survey instrument used here did not specifically invite qualitative responses about the reasons why disclosures of this type are not routinely sought, it is possible to draw a comparison with the low uptake of widely available condoms. In both cases, social and cultural factors appear to be at play. The sense of individualism and individual responsibility captured in comments like "My partners are adults" suggests that the emphasis in sexual encounters is frequently placed on the self rather than the other. This may reflect a social defensiveness linked to anxiety around the use of terminology like *gay* or *homosexual*, as noted by studies which point to the emergence of the less categorical phrase *down low* (Rutledge et al., 2018). Such reluctance to adopt a homosexual or bisexual identity has been linked particularly to cultures prevalent among African American and Hispanic people. The consumption of illegal drugs before and/or during sex, though not a focus of the present study, could reasonably be labelled a high-risk behavior and hypothesized to inhibit self-care in the context of a sexual relationship (Seth et al., 2017). Arguably high-risk behaviors of this kind are motivated (at least in part) by self-destructive impulses, likely stemming from a sense of social ostracism. If this is the case, it points to a concerning gap between minority ethnic MSM and Caucasian/white MSM,

among whom the practices of disclosing their HIV status, requesting disclosure from a partner, and routinely using condoms were shown to be significantly more common in the present study.

5.2.3 Sexual Behavior Differences

The degree to which race/ethnicity predicted medical adherence in the results presented above was highly significant and suggests that simply belonging to the African American/black or Hispanic/Latino demographic puts any individual MSM at a profound disadvantage in relation to the likelihood that he will seek, obtain and reliably use medication for the prevention or treatment of HIV and STIs. In undertaking the study, this researcher anticipated a correlation between race and routine medical adherence, but the extent of that correlation was not foreseen, and points to a stark need to reevaluate public health policy so as to emphasize the significance of demography and behavior on health outcomes much more strongly. Recent studies have pointed to the importance of community-based health policy (Braveman et al., 2011), and the present survey illustrates that even within a limited area (New York City), health outcomes vary substantially depending on racial/ethnic community identity. Previous research has also indicated the relatively low adherence among African Americans, in particular (Beer et al., 2016), without necessarily establishing a consensus among researchers as to why the disparity should be so great or what policy options are available to redress it.

In the present survey, three mutually impactful behaviors were shown to be dramatically more prevalent among African American/black and Hispanic/Latino respondents when compared to their Caucasian/white counterparts. MSM in these groups used protection less reliably during sex (being just 0.17 times as likely to use it), misrepresented their own HIV status more frequently (being 4.98 times as likely to misrepresent it), and sought disclosure of their partners' status less frequently (being 0.12 times as likely to request it). In each case it is not only relevant

that members of this minority group were less likely to practice good sexual health maintenance, but also that the rate of compliance was so dramatically at variance with other respondents. It is also important to note that these data do not present a mixed picture: it was not the case that members of the target population practiced good sexual health maintenance in one area but poor sexual health maintenance in another. Rather, high-risk behaviors in all three areas correlated with race, and are known to compound with one another, thereby exacerbating the negative health outcomes experienced by members of these demographic groups. Dangerous behaviors of this kind may be linked to so-called “traditional masculinity scripts” (Marcell et al., 2017, p. 402), part of the socioecology of modern America, which place emphasis on communicative reticence among men and place the burden for contraception on women in heterosexual relationships. The absence of a woman in an MSM sexual encounter creates a deficit which may partially account for lower levels of disclosure and requesting disclosures within male homosexual relationships, however this is only part of the story. As the present study shows, MSM are asymmetrically prone to poor sexual health practice, and our understanding may be better served by thinking in terms of *traditional racial/ethnic scripts* as compounding the behaviors socially tied to masculinity.

African Americans and Hispanic Americans continue to experience the modern manifestation of segregation (White et al., 2012), including in New York City, meaning that they operate within a culture partially closed off from other ethnic/racial groups. This creates a barrier which may help to account for certain results in this survey. The fact that African American/black and Hispanic/Latino respondents were 5.71 times as likely as Caucasian/white respondents to account for not disclosing their HIV status to sexual partners on the basis that they were undetectable may reflect cultural norms specific to those segregated communities.

This same group was even more likely (6.42 times as likely) than other respondents to cite the adult responsibility of their partners as a reason for non-disclosure, again indicating a considerable variance in attitudes apparently linked to demography. One reason why ethnic minority MSM may be routinely less forthcoming about their HIV status could be linked to anxiety about the consequences of disclosure. Anxiety of this type likely results from stressors experienced at the local level which may have a cumulative effect (deFur et al., 2007). This explanation has been used to account for the relatively high propensity of smoking and drug use among minority ethnic groups in the U.S. at a time when overall rates of engagement with these harmful practices are in decline (Duncan et al., 2016). If we consider the disincentives to disclose which result from this anxiety alongside the incentives for nondisclosure linked to "masculinity scripts" (Marcell et al., 2017, p. 402) and a sense of belonging to a society which favors the individual over the group, then this may go some way towards accounting for the relatively poor sexual health maintenance displayed by the ethnic minority respondents surveyed.

5.2.4 Access to Care

This study found that medication adherence is clearly linked to medication funding. Superficially unsurprising as it may be, this finding nonetheless reinforces the impression gleaned from existing literature that African Americans and Hispanics, who are less likely to have health insurance than Caucasian/white Americans (Williams et al., 2015), are at a disadvantage in relation to their likely ability to adhere to a productive medical regimen. Anxiety surrounding access to healthcare permeates all areas of life. Once again, the extent of the deficit experienced by this group, members of which were shown to be only 0.13 times as likely to adhere to medical guidance when compared to respondents from other racial/ethnic backgrounds in the present study, is extreme. The causal relationship is increasingly clear: African American

and Hispanic respondents to this study were only 0.37 times as likely as other respondents to self-fund their medical care and correspondingly only 0.13 times as likely to adhere reliable to that care regimen. This makes clear the extent of the coverage gap in the Affordable Care Act (ACA) identified by Rowland (2016) and demonstrates an important area of focus for policymakers. Gaps or deficits of this kind reflect what Williams and Rucker (2000) have called “laissez-faire racism” (p. 78) in American society, and demonstrate a cause of non-compliance which has little if anything to do with the efforts made by a given individual. That individual’s health outcomes are, to an alarming extent, predetermined by race according to these data.

Although the present study did not focus extensively on the role of incarceration in predicting health outcomes, nor on the relationship between race and rate of incarceration (as has been done by earlier studies, e.g. Gramlich, 2019; Harawa & Adimora, 2008), the finding that for every increase in the level of incarceration experience reported by a respondent they became 0.27 times as likely (less likely) to have health insurance is an important compounding factor. African Americans and Hispanics are disproportionately incarcerated across America, and are already disadvantaged in terms of average educational attainment relative to Caucasian/white citizens. Moreover, HIV-positive people of any ethnicity are generally regarded as *at risk* for incarceration relative to the wider population (Harawa & Adimora, 2008). Since the results for this study show both education and incarceration history as statistically significant predictors of the likelihood that a given respondent would have health insurance, we see here further evidence that African American and Hispanic MSM are experiencing a perfect storm of disadvantageous conditions which are affecting their health outcomes in the U.S. at the present time.

5.3 Key Findings About Influencers on New HIV Infections Among MSM

Addressing new HIV infections through the promotion of higher levels of medication adherence is important, as a significant reduction in new HIV infections has been viewed as being positively associated with >90% medication adherence with the prophylactic use of Truvada (Liu, 2014) and because the use of HIV medication(s) for sustained viral suppression significantly reduces transmissions of HIV. Findings in the present study demonstrated a need for targeted focus on MSM identifying as African American/black or Hispanic/Latino, as respondents within these groups were significantly less likely to demonstrate higher levels of medication adherence compared to other respondents. Absent the protective factors offered by the prophylactic use of HIV medications and the use of HIV medications for sustained viral suppression, African American/black and Hispanic/Latino MSM remain at elevated risks for new HIV infections.

Findings of the present study also confirmed the financial level disparities that are emblematic of the centuries-old, uneven distribution of opportunities among Americans. This lack of parity appears to have a complementary impact on public health, particularly in terms of MSM being able to partially or fully self-fund HIV medications for either prophylactic use or for use with a view toward sustained viral suppression. Expanding access to financial resources could potentially advance the prophylactic use of HIV medications among MSM, at least until a prophylactic vaccine for HIV becomes publicly available.

5.3.1 Sexual Health Maintenance Behaviors and Ethnicity

The overarching inquiry under consideration in the present study can be stated as follows: Do MSM who identify as African American/black or Hispanic/Latino fundamentally behave differently from their Caucasian/white MSM counterparts to the point that such divergent new

infections of HIV trends make sense? And, if so, then how? Race/ethnicity is embedded into every aspect of public health and the results from this study demonstrated that new infections of HIV were heavily influenced by a significant difference in sexual health-related behavioral patterns in MSM identifying as members of ethnic minority groups (African American/black and Hispanic/Latino) and MSM who identify as Caucasian/white. Most disappointing, perhaps, was that—attendant to the manifold layers of socioeconomic disadvantage—MSM within these groups were nearly five times as likely to misrepresent their HIV status after they had previously received a positive diagnosis for HIV. Sexual health communication challenges were further demonstrated in that MSM who identified as African American/black or Hispanic/Latino were significantly less likely than MSM who did not identify as African American/black or Hispanic/Latino to engage in discussions about their HIV status or to inquire about their partners' HIV status in advance of unprotected anal intercourse or other forms of sexual contact.

Through comprehensive and robust health education programming aimed at the importance of adhering to medication regimens and that focus on the community-level, race/ethnicity-level and family-level benefits which result from reduced HIV infections among African American/black and Hispanic/Latino MSM, it may be possible to achieve significant reductions in the number of new infections of HIV among this priority population. A concomitant impact would be a significant reduction in the stigmatization of HIV as a virus that disproportionately impacts members of African American/black and Hispanic/Latino MSM communities.

In terms of medication funding, it is clear that more modest income levels ensure fewer opportunities for medication adherence—particularly considering that those unable to afford to fully or partially fund their medications through copayments are less likely to acquire the

medications they need. This is an issue that impacts African American/black and Hispanic/Latino MSM much more significantly than it impacts their Caucasian/white counterparts. Issues such as this may be addressed at a health policy level by limiting patients' out-of-pocket exposure to a moderate level—a maximum of $20 for each 30-day prescription, for example. This would require significant public subsidy, but could be justified on the basis of relieving pressure on the public health system currently stemming from insufficiently well managed HIV in MSM with ethnic minority status. Another proposed approach is to embrace the social justice movements for racial equality in the United States and lobby for the most influential companies, organizations and policymakers to expand economic opportunities for American residents who identify as African American/black or Hispanic/Latino MSM. This would enable these priority populations to access medication at affordable rates and, therefore, to willingly engage in cost-sharing without the associated financial burdens they currently experience in disproportionately large numbers.

Conclusion

This study presents a stark and timely assessment of the disparity in health outcomes for white and ethnic minority MSM living in the USA in 2020. Although its focus was restricted to one major city (New York) and respondents were largely self-selecting, the results tally with much of the existing literature which demonstrates an asymmetry between these groups, whereby African Americans and Hispanic Americans on average experience substantially poorer health throughout their lives. Among MSM, this is acutely felt in the relative instances of new HIV diagnoses: declining across the population as a whole, but increasing within this target population. While the fact that disparities persist in a nation with a complex history of race relations is no surprise, the extent of the disparities is shown here to be dramatic, and should be profoundly disconcerting for academics, activists and policymakers alike.

The key findings of this study support an intersectional approach to this fundamental problem, treating it as a matter of public health and of sociocultural and economic inequality. The analysis presented here indicates that simply being born into an African American or Hispanic family ensures that your life chances are not equal to those of your fellow citizens who belong to other racial/ethnic groups. Some of the disadvantages which confront you are plainly visible in the *de facto* segregation of many American cities and the tendency for members of these ethnic minority groups to gravitate towards socioeconomic instability. Educational attainment levels are lower, on average, leading to poorer health literacy. This is then compounded by cultural expectations which value particular representations of masculine

behavior that encourage poor sexual communication. Endemic anxiety linked to discrimination (manifest and perceived) further compounds the disadvantage experienced by MSM, in particular, who are also more likely to experience cultures which encourage high-risk sexual behaviors. Social stigma continues to surround STIs and HIV, disincentivizing disclosure of status within an intimate sexual context. Respondents surveyed for this study were less likely to disclose their own status, seek disclosure from others, use protection routinely, adhere to medical regimens, demonstrate high levels of health literacy and benefit from having health insurance if they were of African American/black or Hispanic/Latino background.

These results are important at this sociocultural moment in which systemic inequity is becoming better understood. They stand in stark contrast to the general population-wide trends towards higher levels of health literacy, reduced stigma around same-sex intimacy and homosexual identity, lower rates of new diagnoses of HIV, and improved living standards for those with a positive HIV diagnosis. Additionally, the benefits of prophylactic medication are still felt more widely among Caucasian/white Americans than among members of the target minority groups. This disparity is both discouraging, insofar as it reflects a deep and abiding inequity along racial/ethnic lines, and promising to the extent that it points the way to improved health outcomes for all. Now that race is increasingly understood to be socially defined, and health disparities can no longer be plausibly associated with biological differences between people of different demographic backgrounds, the focus must turn to behavioral differences and, beyond that, to the underlying socioeconomic and cultural factors which incentivize certain behaviors.

The current focus on these subjects in American culture creates a context in which radical change is possible in public health, to the benefit of African American and Hispanic citizens, and

especially to discrete vulnerable populations within those groups, notably MSM. The volume of recent studies in this field is significant, and points the way towards more community-focused, localized public health policymaking. The emergence of intersectional analyses is crucial to shaping a systematic and synthesized approach which recognizes that tackling a single demographic or behavioral factor is unlikely to alleviate the profound and shameful disparity which undermines the equality of opportunity prized by policymakers of all political dispositions.

In order to improve the health outcomes of minority ethnic American MSM, it will be necessary to listen to those with direct experience of the current, negative state of affairs. Studies like this one provide a mechanism for doing this and for interpreting these data which such listening can generate. Having once identified the origin of the disparities, it becomes possible to reduce them with targeted policy initiatives. The key message of this survey is that there is no single, sliver-bullet solution to an age-old systemic problem. By identifying contributory factors, however, namely behavioral, cultural and socioeconomic pressures felt by those belonging to this target group, it indicates a way forward to a more integrated application of health and social policy which treats *laissez-faire racism* as no less reproachable in American life than overt racism. If race is socially constructed, then we owe it to ourselves to deconstruct it, and reimagine it as a point of difference only, not a cause of disadvantage.

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