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HIV & STD TESTING AMONG
HETEROSEXUAL AFRICAN AMERICAN MEN

BY

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DISSERTATION

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African Americans are disproportionately affected by HIV and other STDs. Given the state of HIV/AIDS and other STDs in the African American population, heterosexual African American men have been inadequately studied. High-risk heterosexual contact as a mode of transmission for HIV and other STDs continues to be the most common mode of infection for African American women and a growing mode of infection for African American men. HIV and STD screenings are important to prevent and reduce the risk of disease transmission. Regular testing also provides an opportunity for early diagnosis of infection and links those who are diagnosed with an infection to the appropriate medical care and services. The Centers for Disease Control and Prevention's (CDC) recommendations for routine HIV testing provide an opportunity to increase HIV & STD testing among persons who may not perceive themselves to be at risk.

Little is known about HIV and STD testing behaviors among men, particularly heterosexual African American men. To understand this phenomenon, it is important to examine the characteristics of heterosexual African American men who do get tested for HIV and other STDs. The author employed a mixed methods design to (a) identify the predictors for the use of HIV and STD testing services among heterosexual African American men, 18 - 44 years of age, (b) determine the views of heterosexual African American men on routine HIV testing recommended by the CDC in 2006, and (c) obtain suggestions of how to increase the use of HIV and STD testing services among heterosexual African American men.

The analysis of data from the 2002 National Survey of Family Growth (NSFG) revealed that lifetime HIV testing was reported by 74% of the men; and 31% had received HIV testing, as well as STD testing, in the last year. The author hypothesized that men with improved social determinants of health, health care access, and responsible sexual behaviors would be more likely to reporting HIV and STD testing in the last year. Despite high rates of lifetime testing, regular HIV and STD testing were less common and very few improved states of the variables predicted HIV and STD testing in the last year. Having a physical exam in the last year emerged as an independent predictor for both HIV and STD testing.

Binomial multivariate logistic regression analysis revealed profiles of the men most likely to test for HIV and other STDs. Men who were (a) 25 – 34 years old, (b) widowed or divorced, (c) lived alone, (d) had moderately high incomes, and (e) received an annual physical exam were most likely to report HIV testing in the last year, $\chi^2 (9, N = 717) = 138.451, p < .001$. Men who (a) were unemployed, (b) lived in a metropolitan area (but not the central city), (c) received an annual physical exam, (d) had unprotected anal sex with a female, (e) had sex with an female intravenous drug user were more likely to report STD testing in the last year, $\chi^2 (7, N = 753) = 129.019, p < .001$.

Parallel with the analysis of the NSFG data, the author used the Health Belief Model as a conceptual framework to determine views about routine HIV testing among heterosexual African American men, 18 – 44 years old in Champaign, Illinois ($n = 30$) and obtain suggestions of how to increase the use of HIV and STD testing among heterosexual African American men. The quantitative analysis provided a continuum of risk based on having had a routine physical exam to categorize the risk levels for the underutilization of such services among the men who

volunteered for interviews. Most of the men who participated in the interviews occupied a high position on the continuum for HIV and STD testing use.

HBM constructs may assist in the explanation of HIV and STD testing use among this sample of heterosexual African American men 18 – 44 years old in Champaign, IL. The responses of the participants provided information related to each construct. The interviews called attention to several important factors: (a) there is a concern and fear for HIV and STD infection, but there is a disconnect between the expressed beliefs and actions employed to prevent infection; (b) the maintenance of their sexual health, particular sexual functioning and reproduction, was viewed as the sole benefit of HIV and STD testing; (c) relationship status and a lack of physical symptoms emerged as barriers to regular HIV and STD testing; and (d) a desire to know one's status of infection, knowledge of possible exposure, and incarceration were the most common cues to use HIV and STD testing services.

The men were also willing to accept HIV testing as a part of routine care, although they were unaware of the routine HIV testing recommendations. This suggests that (a) routine HIV testing policies may not be implemented in some health care facilities, (b) reluctance exist to practice routine testing among heterosexual African American men, and (c) the uptake of routine testing by health care organizations, as well as the dissemination of information, has not reached heterosexual African American men. A variety of strategies is needed to increase regular HIV and STD testing among heterosexual African American; however, messages need to focus on sexual health as a component of overall health. Routine HIV testing may increase opportunities and access to both HIV and STD testing services for heterosexual African American men in Champaign, Illinois who do not have access to routine health care or those who do have access, but do not use HIV testing services.

*To those before me who went without so that I may have.
To those before me who stood so that I could sit.
To those before me who stood for something so that I would not fall for anything.*

*“When the history books are written in the future, somebody will have to say,
‘There lived a race of people, a black people, fleecy locks and black complexion,
a people who had the moral courage to stand up for their rights.
And thereby they injected a new meaning into the veins of history and of civilization.’”
- Dr. Martin Luther King, Jr.*

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CHAPTER 1

INTRODUCTION

Statement of the Problem

African Americans are disproportionately affected by high rates of human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS). HIV/AIDS emerged in the early 1980's as an atypical pneumonia related illness among young, white, homosexual men on the east and west coasts of the United States (Clarke-Tasker, Wutoh, & Mohammed, 2005; P. B. Williams, 2003). Yet, it was not long before the tide began to shift and the face of HIV/AIDS began to change. In 1996, the Centers for Disease Control and Prevention announced the disproportionate impact of HIV/AIDS on the African American population (CDC, 1999; The Henry J. Kaiser Family Foundation [KFF], 2007a). At the start of the 21st century, the United States experienced a drop in HIV incidence; and as a result of the widespread use of highly active antiretroviral therapy (HAART), AIDS deaths and diagnoses began to decline (Karon, Fleming, Steketee, & Kevin, 2001).

Amidst the decline in new infections and deaths, the smallest decrease occurred among African Americans. More specifically, men and women infected through heterosexual contact, along with women and women from the South, experienced the smallest percentage decrease in AIDS morbidity and mortality (Karon et al., 2001, p. 1064). African Americans also accounted for nearly half of all new AIDS cases. The AIDS death rate of African Americans was almost 11 times the rate of Whites. Newly diagnosed HIV infections also continued to remain highest among African Americans. African American men and women accounted for 51 and 71% of new HIV cases, respectively. The HIV diagnosis rate for African American men was nearly 9 times

the rate of White men. The rate for African American women was nearly 21 times the rate of White women.

Unfortunately, not much has changed since the new millennium. African Americans continue to experience disproportionately high rates of HIV/AIDS, including other sexually transmitted diseases (STDs) (CDC, 2007a, 2007b). Surgeon General David Satcher (2001) released a “call to action” highlighting the need to address “the significant public health challenges regarding the sexual health” of U. S. citizens (p. 2). The United States has an estimated 19 million new cases of STDs annually (Weinstock, Berman, & Cates, 2004), the highest rate of STD infection among industrialized countries worldwide.

Sexual health is just one of several health topics often overlooked among men. As of 2007, the life expectancy at birth for men in the U. S. (75.3 years) is more than five years less than the life expectancy of women (80.4 years) (Xu, Kochanek, & Tejada-Vera, 2009, p. 3). Men surpass women in the death rates for 12 of the 15 leading causes of death, including heart diseases, cancer, stroke, and diabetes (Heron et al., 2009). Health professionals and organizations have acknowledged the need to address the health issues of men, including sexual health, over the last decade (Courtenay, 2002; Felix-Aaron et al., 2005; Jones, 2004; Meyer, 2003; Sandman, Simantov, & An, 2000; Smith, 2003; “What About,” n. d.; D. R. Williams, 2003). The absence of literature and interventions for male health issues has even facilitated national policy initiatives and programs to address the health disparities for men. In 2003, U. S. Senator Mike Crapo of Idaho introduced the Men’s Health Act of 2003 (S. 1028) (Men’s Health Policy Center, 2003). The bill was originated to establish an Office of Men’s Health at the U. S. Department of Health and Human Services and to coordinate government efforts in awareness, prevention, and research at both the federal and state level efforts. The bill garnered the support of U. S. House

of Representatives Vito Fossella of New York in 2006 and Baron Hill of Indiana in 2008, as well as the support of 53 additional members of the House (Men's Health Policy Center, 2006, 2008). Today, the bill is referred to as the Men and Families Health Care Act of 2009 (H. R. 2115). It was reintroduced to the House by U. S. Representatives Barron Hill of Indiana, Tim Murphy of Pennsylvania, and four other members (H. R. 2115, 2009; Men's Health Policy Center, 2009). The bill has been referred to the Subcommittee on House Energy and Commerce and is under review before it is presented for general debate. Unfortunately, similar legislation has been introduced since 2000 and all bills have died upon review of the assigned committee (H. R. 2115, 2009).

The state of health is even bleaker for men of color. Researchers have called for attention to the unique health issues of men of color, specifically African American men (Bonhomme, 2004; Rich & Ro, 2002; Satcher, 2003; Treadwell & Ro, 2003). The lack of attention to the health of men of color, more specifically poor men of color, led the researchers to characterize African American men and minority men as “invisible”, “forgotten”, and “underserved” populations. African American men have the shortest life expectancy, 70.2 years, compared to men and women in other racial and ethnic groups in the U. S. (Xu, Kochanek, & Tejada-Vera, 2009, p. 3). The age-adjusted death rates are higher for African American men than for White men for heart disease (320.6 versus 245.2), stroke (67.1 versus 41.7), HIV (26.3 versus 3.4), and cancers (284.9 versus 217.9), as well as higher than the men from other racial groups (NCHS, 2010). African American males made up 31% of all new AIDS cases in 2007. Thus, there is a great need to prioritize developing initiatives for men's health, as well as minority men's health, and include addressing issues of sexual health.

Purpose and Significance of the Study

Many STDs have no symptoms, cause mild symptoms, or present symptoms mirroring other non-life threatening common health issues that go unnoticed or disregarded; as a result, regular testing is essential to reducing the transmission of HIV and other STDs for those who are sexually active (CDC, 2006b). HIV, in particular, has a long time lag – sometimes years – between contraction and the onset of symptoms. Many of those infected with HIV have no symptoms. As part of a multi-prong prevention strategy, the CDC's 2006 revised recommendations for HIV testing suggest making “HIV testing and opt-out HIV screening” a routine part of medical care in all health care settings (CDC, 2006a, 2006b). Little is known about HIV and STD testing behaviors among men, particularly heterosexual African American men. To understand this phenomenon among heterosexual African American men, it is important to examine the characteristics of heterosexual African American men who do get tested for HIV and other STDs, issues of health care access, relevant sexual risk behaviors, and individual beliefs about testing. Information about predictors for HIV and STD testing is critical for identifying those heterosexual African American men at highest risk for low use of sexual health services and for designing effective interventions to help heterosexual African American men access such services. Thus, the specific purposes of this study are to

1. Identify the predictors for the use of HIV and STD testing services among heterosexual African American men, 18 - 44 years of age,
2. Determine the views of heterosexual African American men on routine HIV testing recommended by the CDC in 2006, and
3. To obtain suggestions of how to increase the use of HIV and STD testing services among heterosexual African American men.

This inquiry used self-reported data from the 2002 National Survey of Family Growth (NSFG) (CDC, 2004b), followed by in person, semi-structured interviews with heterosexual African American male volunteers. The examination of HIV and STD testing among heterosexual African American men is necessary to shed some light on their testing practices and how it may influence the unequal burden of sexually transmitted diseases in the African American population. It is also imperative for the development of targeted prevention and testing interventions among all those at risk. For the enormous and complex problem of sexually transmitted diseases, heterosexual African American men have been inadequately studied.

The 2002 NSFG (Cycle 6) conducted by the CDC's National Center for Health Statistics (NCHS) and the recently revised CDC HIV testing guidelines offer an opportunity to understand more about predictors of sexual health care use among African American men (CDC, 2004b). The 2002 NSFG data included men for the first time in its 29-year history and an oversampling of African American men. African American men account for 6% of the U. S. population (U.S. Census Bureau, 2007a), but 8% of 2002 NSFG sample (CDC, 2004b). It was also expanded to include questions on HIV and STD risk behaviors. Questions of sexual risk behaviors, receipt of sexual health services, and access to health care allow for a first time quantitative analysis of the predictors of HIV and STD testing for heterosexual African American men. This study examined various forms of demographic factors, social determinants of health, access to health care, and sexual risk behaviors as independent predictors of HIV and STD testing. I hypothesized that heterosexual African American men with improved social determinants of health, access to health care, and responsible sexual behaviors are more likely to use HIV and STD testing services.

Parallel with the analysis of the NSFG data, the CDC guidelines for routine HIV testing provided a new framework within which to explore African American males' perceptions of HIV and other STDs as a threat to their health, motivators of sexual health care use, and acceptance of HIV and STD testing. The recommendations extend to all individuals between the ages of 13 and 64, and suggest testing in all health care settings. Thus, the potential stigma of HIV testing shifts to considerations of routine HIV testing as a method to normalize HIV testing and interrupt the cycle of infection. The recommendations offered a more neutral, health-focused framework from which men were willing to share their perspectives on HIV and STD testing; and were used to examine patterns of HIV and STD testing use revealed from the NSFG data. Results of the quantitative analysis identified demographic factors, social determinants of health, health care access, and sexual risk behaviors predictive of the receipt of HIV and STD testing; therefore providing a continuum of risk for underutilization of such services.

In turn, this quantification of risk provided a measure for categorizing risk levels of men who volunteered for the interviews, and for identifying subgroups of men less likely to receive these services. Guided by the Health Belief Model (HBM) (Janz, Champion, & Strecher, 2005), the qualitative arm of this study was designed to determine the views of heterosexual African American men on routine HIV testing as recommended by the CDC in 2006, and to obtain suggestions of how to increase the use of HIV and STD testing services among heterosexual African American men. This mixed methods approach provided insights into the predictors of HIV and STD testing and into ways in which African American men might be persuaded to seek more regular and comprehensive sexual health care. It also provided an opportunity to address the discrepancy between self-reported sexual risk behaviors and estimated STD incidence and prevalence within the African American community.

CHAPTER 2

LITERATURE REVIEW

Introduction

National studies have established that there are significant disparities in health and health care for racial and ethnic minorities (Smedley, Stith, & Nelson, 2003; U. S Department of Health and Human Services [HHS], 2008). Large variations in key health indicators, such as insurance, having a usual source of primary care, health care use, and rates of disease morbidity and mortality, represent disparities in the overall health between different racial and ethnic groups, as well as between men and women. Racial and ethnic health disparities have been found to be the result of a complex interaction of multiple factors, including (a) socioeconomic status (education, employment, and income); (b) the social environment (educational and economic opportunities, racial and ethnic discrimination, and neighborhood and work conditions); (c) lifestyle behaviors (safe sex practices, substance abuse, and physical activity); and (d) access to care (primary and secondary care) (Williams, Neighbors, & Jackson, 2003). Access to health care and responsible sexual behavior are two of the ten leading health indicators used by the U. S. Department of Health and Human Services (2000) to measure the nation's overall health. This study will demonstrate how both indicators are particularly relevant to the health status of the African American community, specifically African American men and their use of HIV and STD testing services. Consider the following statistics in the context that African Americans account for approximately 13% of the U. S. population (NCHS, 2010), and African American men account for an estimated 6% of the U. S. population (U. S. Census Bureau, 2007a).

Access to Health Care: Disparities and Social Determinants of Health

Inequalities in health status are attributable to significant inequalities in health insurance coverage and access to care. The Agency for Healthcare Research and Quality (AHRQ) (2008) classified health insurance and a usual source of care as structural measurements that can facilitate or impede health care access. Health insurance and access to care, in turn, are influenced by various social determinants of health. In the U. S., social factors such as education, employment, and income can also serve as facilitators or barriers to health care. Researchers have argued that a myriad of social and environmental factors function as barriers to the health status and the utilization of health services for African American men (Bonhomme, 2004; Rich, 2000). Unfortunately, African American men have been more likely to have low levels of higher education, high rates of unemployment and low-paying occupations, and low income levels compared to other racial and ethnic groups, especially White men. Ultimately, the interaction of such factors results in a unique set of socially determined health risks for African American men.

Adults lacking health insurance face numerous barriers to health care access. They are less likely to receive preventive care, such as screening services, and appropriate acute or chronic disease management. Having a usual source of care, a regular health care provider when ill or in need of medical advice, enables access to preventive care. Pleis and Lethbridge-Çejku (2007) found that 50% of the uninsured do not have a usual source of care compared to 10% and less for those with private or public insurance (p. 92). They also found that the uninsured were nearly eight times as likely to use the emergency room as their usual source of care than those with private insurance coverage. Men are reported to be less likely than women to have health insurance, to have a usual source of care, and to go to the doctor for routine or preventive health care, facing a unique set of barriers in accessing health care (Culica, Rohrer, Ward, Hilsenrath, &

Pomrehn, 2002). In one study, African American men were over one and half times more likely to use the emergency room as their usual source of care than African American women (Pleis & Lethbridge-Çejku, 2007, p. 93). Ultimately, individuals lacking preventive care are more likely to develop serious health problems and have higher rates of hospitalizations and mortality from preventable conditions (Hoffman & Schwartz, 2008a, 2008b). The rate was 3 and 7 times higher, respectively, than the rates for White men and women. African Americans were found to have much higher rates of avoidable hospitalizations in comparison to Whites for multiple health conditions, including uncontrolled diabetes, diabetes with short- and long-term complications, diabetes-related lower extremity amputation, chronic obstructive pulmonary disease, bacterial pneumonia, hypertension, and angina (Felix-Aaron et al., 2005, p. I-77). For most measures, African American men had an even higher risk of hospitalization.

A considerable proportion of African American men represent the uninsured compared to the insured. The majority of Americans with private insurance or who receive their health coverage through employment-based health insurance programs, representing 59% of the U. S. population (DeNavas-Walt, Proctor, & Smith, 2008, p. 27). In other words, 177 million Americans have employment-based health insurance. Only 3% of those with employment-based health insurance, nearly six million people, are working-age (adults 18 – 64 years old) African American adult men (U. S. Census Bureau, 2008a) (Table 1). Some individuals without private insurance access health care through public insurance programs. The public insurance is supplied by the federal and state governments to individuals meeting certain financial and demographic requirements. Nearly 28% of Americans, 83 million people, acquire health insurance through the government (DeNavas-Walt et al., 2008, p. 27). Yet, only 2% of those with government

insurance, nearly 2 million people, are working-age African American males (U. S. Census Bureau, 2008b) (Table 1).

Table 1

Male & Black Persons Insurance & Poverty Status, % by Age, Sums in Thousands -U. S. Census Bureau, 2008

| | Totals | | Age | | | | | |
|-----------------------------------|---------|-------|---------|------|---------|------|----------|------|
| | | | 0 – 17 | | 18 – 64 | | 65 – 80+ | |
| | Persons | | Persons | | Persons | | Persons | |
| | Sum | % | Sum | % | Sum | % | Sum | % |
| Totals in 2007 | 17,537* | 100.0 | 5,724 | 32.6 | 10,584* | 60.4 | 1,228 | 7.0 |
| Employment-Based Health Insurance | | | | | | | | |
| Covered | 8,676 | 100.0 | 2,635 | 30.4 | 5,677* | 65.4 | 363 | 4.2 |
| Not Covered | 8,861 | 100.0 | 3,089 | 34.9 | 4,907 | 55.4 | 866 | 9.8 |
| Government Health Insurance | | | | | | | | |
| Covered | 5,808 | 100.0 | 2,729 | 47.0 | 1,938* | 33.4 | 1,141 | 19.6 |
| Not Covered | 11,729 | 100.0 | 2,995 | 25.5 | 8,646 | 73.7 | 88 | 0.7 |
| Health Insurance Coverage | | | | | | | | |
| Insured | 13,834 | 100.0 | 5,095 | 36.8 | 7,546 | 54.5 | 1,193 | 8.6 |
| Uninsured | 3,756 | 100.0 | 682 | 18.2 | 3,039* | 80.9 | 36 | 1.0 |
| Poverty Status | | | | | | | | |
| In Poverty | 3,907* | 100.0 | 2,000 | 51.2 | 1,701* | 43.5 | 206 | 5.3 |
| Not In Poverty | 13,630 | 100.0 | 3,724 | 27.3 | 8,884 | 65.2 | 1,022 | 7.5 |

Note. Current Population Survey, Annual Social & Economic Supplement, 2008. * Statistics discussed in text.

The gaps between the private and public health insurance systems leave 15% of the U. S. population, nearly 46 million people, without health insurance coverage (DeNavas-Walt et al., p.27). Racial and ethnic minorities, as well as men, continue to be disproportionately affected by a lack of health insurance coverage. Above the national average and well above the percentage of uninsured Whites (10%), African Americans represent over 19% of those without health insurance coverage, totaling over 7 million people (DeNavas-Walt et al., p. 30). Nearly half of

uninsured African Americans, 3 million people, are working-age males (U. S. Census Bureau, 2008c) (Table 1). Thus, a considerable proportion of African American males 18 - 64 years old , 29%, do not have health insurance coverage. The statistic is greatly above the national average (20%) and over twice that of White men in the same age group (13%) (U. S. Census Bureau, 2008c). Inequalities in education, employment, and income are barriers for African Americans in obtaining health care access. They also contribute to a poor overall health status and diminished quality of life. The disparities in education, employment, and income are even greater for African American men.

African American men often experience low levels of education, employment, and income compared to men and women of other racial and ethnic groups. Higher levels of education are uncommon among African American men. Nationally, 26% of the U. S. population older than 18 years of age have attained a bachelor's degree or higher in education (U. S. Census Bureau, 2007b). Men with a bachelor's degree or higher accounted for only 15% of African American men compared to 51 and 27%, respectively, of Asian and White men with the same level of educational. An individual's quality and level of the education attained determine the quality and skill-level of employment opportunities. Unemployment rates are also higher for working-age African American men. In 2007, the unemployment rate for African American men between 18 - 64 years of age was nearly 9% compared with a national average of nearly 5% and a rate of 4% for White men (U. S. Department of Labor [DOL], 2007). It was the highest across men and women of all races and age groups; however, all uninsured persons are not unemployed. The National Center for Health Statistics (2007) reported that "many uninsured people work for firms that do not offer coverage, are not eligible for coverage, or decline offers of health insurance for financial or other reasons" (p. 94). African American men also have a propensity to

work in low-paying occupations, such as retail and service industries. If employed, only 22% of African American men were working in high-paying job categories compared to nearly 50 and 33%, respectively, of Asian and White men (DOL, 2008).

Individuals with limited employment opportunities and a propensity to low-paying occupations often have limited sources of income. The percentage of people 18 – 64 years old living in poverty and median household incomes is higher for African Americans than all other racial and ethnic groups, and even worse for African American men (DeNavas-Walt et al., 2008). The percentage of the U. S. population of working-age living in poverty is an estimated 11%, representing over 20 million people; however, the poverty rate for African American males is over 1.5 times the national rate (16%) and 2 times the rate for White men (U. S. Census Bureau, 2008d) (Table 1). Males 18 - 64 years of age accounted for 44% of African American men in poverty. Poverty is caused by income inequalities. The median income for African Americans is the lowest of all racial and ethnic groups. In 2007, the median income for African American households was \$33,916 (DeNavas-Walt et al.). This figure was 88, 62, and 51% of the median household income for Hispanic, White, and Asian households, respectively. Consequently, inequalities in health care access and social determinants of health make the idea of actually using health services seem impossible for African Americans.

Responsible Sexual Behavior

Access to health care may also influence responsible sexual behavior, including regular screening and testing for HIV and other STDs. Responsible sexual behavior is usually limited to safer sex practices, such as condom use at every sexual encounter, engaging only in monogamous sexual relationships, not engaging in substance abuse, and not having sex with a person who engages in substance abuse. Routine screening for STDs, however, is just as

essential as other methods of responsible sexual behavior when one is sexually active. Untreated STDs can result in health conditions with long-term and overarching effects on a person's general state of health. They can lead to pelvic inflammatory disease (PID) for women, infertility and sterility, heart disease, and increase the chance of being infected with other STDs (Eng & Butler, 1997). Increasing testing for HIV, and other STDs, is vital to break the cycle of infection. Other common STDs, such as human papillomavirus (HPV) can also lead to chronic diseases, such as cancers of the cervix, vagina, penis, and anus. The belief is that routine screening of HIV and other STDs will ensure more people know whether their status of infection, allow them to benefit from earlier diagnosis and treatment, and reduce the risk of infecting others.

The portrait of HIV and STD infections within the African American community constitutes a state of emergency. African Americans account for a large proportion of HIV and STD infections compared to their White counterparts. Chlamydia, gonorrhea, and syphilis are among the most commonly reported STDs in the U. S. (CDC, 2007a). In 2006, the rate of chlamydia was eight times higher among African Americans than Whites, representing 47% of all chlamydia cases. The chlamydia rate among African American men and women was more than 11 and 7 times higher than the rates of White men and women, respectively. The rate of gonorrhea was even higher. African Americans were 18 times more likely than Whites to be diagnosed with gonorrhea, accounting for 69% of all reported gonorrhea cases. The rate of gonorrhea among African American men and women, respectively, was 25 and 14 times the rate of their White counterparts.

Similarly, the syphilis rate for African Americans was 6 times higher than that of Whites. African Americans represented 43% of all reported syphilis cases. The rate of syphilis among African American men was more than 5 times higher than the rate of White men. More

astoundingly, the syphilis rate among African American women was more than 16 times higher than the rate of White women. Individuals infected with other STDs, such as chlamydia, gonorrhea, and syphilis, are also at a greater risk for HIV infection through sexual contact than those without an STD infection.

Rates of HIV/AIDS are also higher for African Americans. HIV/AIDS is the leading cause of death for African Americans in the U. S. (CDC, 2007b). During 2003 - 2006, African American adults and young adults represented 47% of new HIV/AIDS cases compared to 29% of Whites (CDC, 2008). African American men and women, respectively, were 7 and 21 times more likely to be diagnosed with HIV/AIDS than their White counterparts. African American men and women also accounted for a large proportion of cases transmitted through high-risk heterosexual contact and intravenous drug use (IDU). African American men and women, respectively, represent 58 and 65% of HIV cases transmitted through high-risk heterosexual contact; and 47 and 53% of the cases transmitted through intravenous drug use. In 2006, male-to-male sexual contact (59%), high-risk heterosexual contact (23%), and injection drug use (IDU) (14%) were the most common means of exposure for African American men. High-risk heterosexual contact (83%) and IDU (16%) were the most common for African American women. Given the profile of STD infections among African Americans, routine testing for HIV and other STDs may be especially critical in increasing treatment and reducing rates of infection.

Generally, education about sexual health issues and the prevention efforts for HIV and other STDs among African American heterosexuals have focused only on women or men who have sex with both men and women (MSMW). Many STDs are transmitted more easily from men to women than from women to men (HHS, 2007a). The physiology of the female anatomy makes women more biologically susceptible to infection when exposed to STDs. In addition, the

serious consequences to the health (and sometimes the health of their children when transmitted through vertical transmission) and reproductive functioning of women has made them a focal point in efforts to reduce STD rates. Several researchers argue the rate of STDs in heterosexual African American women are influenced by various social and environmental conditions, which prevents access to care, and thus increases their risk for infection, delayed diagnosis, and delayed treatment (Adimora & Schoenbach, 2005; Thomas & Thomas, 1999). National programmatic efforts, such as the “Chlamydia Prevalence Monitoring Program”, the “HIV/AIDS and Women Program”, and the “One Test, Two Lives” Campaign, have been developed to address the various socio-cultural factors that influence sexual health and access to care for heterosexual minority women (“Women’s Health”, 2008; HHS, 2007b).

Sexual health is not only a significant health issue for women, it is also essential to the health status and well being of all men, regardless of the sex of their sexual partners. Most attention to male sexual health has targeted men who engage in sexual activities with other men, categorized by the CDC as men who have sex with men (MSM) or men who have sex with men and women (MSMW) (CDC, 2007c). The two sub-groups are considered to be high-risk populations due to participation in various behaviors that increase their risk for contracting STDs, including unprotected sex, numerous sex partners, anal intercourse, one-night stands, injection drug use, commercial sex, or sexual activity with partners who engage in these risky behaviors. Some MSMW self-identify as heterosexual men, but secretly have sex with men without disclosing their same-sex sexual activities to their female partners, and became colloquially referred to as “men on the down low”.

As a result, the overarching theme of HIV risk for heterosexual African American men has focused on the assumption that men on the down low were a primary source of HIV

infection, and possibly other STDs, for heterosexual African American women (Boykin, 2005; Denizet-Lewis, 2003; King, 2004; Millett, Malebranche, Mason, & Spikes, 2005; Steinhauer, 2001; Wright, 2001). It has been reported that African American MSMW engage in unprotected sexual behaviors, such as anal and oral sex, and injection drug use, as well as engage in sexual activities with other high risk partners, increasing their probability of acquiring or transmitting STDs (Stall, Hays, Waldo, Ekstrand, & McFarland, 2000; Stokes, Vanable, & McKirnan, 1997). They have also been found to be less willing to disclose their sexual behaviors or sexual identity to female partners, immediate family, heterosexual friends, health care providers, and the churches of which they attend (Kennamer, Honnold, Bradford, & Hendricks, 2000; Stokes, McKirnan, Doll, & Burzette, 1996). Consequently, HIV prevention efforts have focused on reducing the risk behaviors of African American men who engage in sexual activities with men; however, other evidence supports the need for additional approaches to address HIV/AIDS in the African American community.

A unique sexual network exists among African Americans that enhances the transmission of STDs. Sexual contact among African Americans often occurs between persons with multiple partners and persons with fewer partners, a formula that increases the risk of STDs within any population (Laumann & Youm, 1999). Partnerships among African Americans are often with mates of the same race. Thus, African American females are more likely than females of other races and ethnicities to be exposed to HIV because of a higher prevalence of infection among African American males (CDC, 2004a). Adimora and Schoenbach (2002) asserted that these factors, along with concurrent partnerships, fuel the HIV/AIDS epidemic within the African American population. Dr. Kevin Fenton, the director of the National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention at the CDC, provided additional evidence to support the

practice of concurrency as a primary channel of HIV infection among African American heterosexuals. In an October interview with the National Newspaper Publishers Association, Dr. Fenton announced that “heterosexual black men with multiple sex partners - not bisexual men who secretly have sex with men - are responsible for high rates of HIV among black women” (Curry, 2009). He specifically stated the following:

We have looked to see what proportion of infections is coming from male partners who are bisexual and found there are actually relatively few. More are male partners who are having female partners and are injecting drugs or using drugs or have some other risks that may put those female partners at risk of acquiring HIV.

It is estimated that African American homosexual and bisexual men 18 - 44 years of age only represent an estimated 3% of the African American male population (Mosher, Chandra, & Jones, 2005, p. 30). Although homosexual and bisexual men in certainly constitute high risk groups, the incidence and prevalence of HIV and STD infections suggests more information about the entire African American community is necessary to combat the epidemic. Previous studies including heterosexual men have addressed the influence of gender roles, gender ratios, power dynamics in relationships, concurrency, and segregated sexual networks as factors influencing STD transmission among African American women engaging in heterosexual relationships with African American men (Adimora & Schoenbach, 2002; Amaro & Raj, 2000; Laumann & Youm, 1999; Pulerwitz, Amaro, DeJong, Gortmaker, & Rudd, 2002). Yet, the importance of sexual health among heterosexual men, and their role in the transmission of HIV and other STDs, as well as prevention and treatment programs, continues to be ignored or limited to specific risk behaviors.

Seal and Ehrhardt (2004) called attention to this deficit. They argued that in the U. S., HIV prevention research and programs for heterosexual men have been largely ineffective and framed around three particular messages: (a) avoid sex with homosexual men or injection drug

users; (b) abstain from sex, unless in a long-term, mutually, monogamous relationship and use condoms only if they are not in a monogamous relationship; and (c) get to know your partner prior to having sex and avoid risky sexual partners. The authors noted that the concern for HIV and STDs or the need to practice safe sex is often absent among heterosexual men if they are not engaging in sexual activities with those categorized as risky partners (homosexual men, injection drug users, woman with multiple partners, etc.) (Seal & Ehrhardt, 2004). They also argued that heterosexual men may have been unresponsive, because the messages compete with their “predominant sexual and safer sex behavior patterns” (Seal & Erhardt, 2004, p. 216).

Seal and Ehrhardt (2004) highlighted that most heterosexual men (a) do not abstain from sex; (b) participate in heterosexual anal intercourse; (c) use condoms to prevent pregnancy, not to prevent HIV and STD transmission and/or only used with casual sex partners; (d) have multiple sexual partners accompanied by early sexual initiation; (e) marry later in life; and (f) frequently engage in casual sex. In addition, heterosexual intercourse in a new relationship often occurs early and prior to open discourse (and comfort level) about sensitive safer sex topics. They concluded that HIV prevention messages for heterosexual men should (a) emphasize reducing, not entirely changing, the risks associated with their usual behaviors; (b) address traditional gender roles, norms, and sexual scripts; and (c) target cultural and developmental differences of heterosexual men over their lifespan. Thus, “there are gaps in our understanding of heterosexual men’s sexuality and sexual behavior that warrant future investigation” (Seal & Ehrhardt, 2004, p. 218).

Sexual behaviors deemed as high-risk certainly exist among men who exclusively, or primarily, engage in sexual activities with women. Mosher et al. (2005) examined measures of sexual behavior among males and females between 15 - 44 years old in the United States using

data from the 2002 National Survey of Family Growth. They found that men with partners of the opposite-sex (18%) were more likely than women with partners of the opposite-sex (14%) to have two or more sexual partners within the past year. Nearly 23% of all men had 15 or more opposite-sex partners in their lifetime compared to only 9% of all women, yet, only 40% of all men reported using a condom at their most recent sex. Although condom use at most recent sex was higher among men who had never been married or cohabited with a woman (65%), there still remains a significant amount of unmarried men having unprotected sex at most recent sex. An estimated 7% reported having an STD in the last year (Mosher et al., p. 37).

Oral and heterosexual anal sex was also common among the men in the sample. An overwhelming proportion of the men, 83%, reported having oral sex with a female (Mosher et al., 2005, p. 25). Thirty-four percent of all surveyed men reported they had anal sex at one point in their lifetime. Anal sex is well noted as an effective method of HIV transmission (Leynaert, Downs, & deVincenzi, 1998; Misegades, Page-Shafer, Halperin, McFarland, & YWS Study Investigators Group, 2001) and related to chronic diseases, such as anal cancer (Hamelyn & Taylor, 2006; Frisch et al., 1997). Several studies have highlighted heterosexual anal sex as a common sexual behavior. It has been found to be associated with other sexual risk behaviors, including more total sex acts, having two or more sex partners, engaging in unprotected vaginal sex, and engaging in sex while high among university students and STD clinic patients (Baldwin & Baldwin, 2000; Tian et al., 2008). Men and women with nonmonogamous sex partners were more likely to report heterosexual anal sex (Leichliter, Chandra, Liddon, Fenton, & Aral, 2007). These behaviors increase their risk for acquiring and transmitting STDs. “Given these behaviors, it is unfortunate that the U. S. health care system fails to meet the sexual and reproductive health care needs of men” (Kalmuss & Tatum, 2007, p. 74). Current statistics demonstrate a need for

active efforts to reduce STD risk behaviors and increase preventive sexual behaviors, such as routine HIV and STD testing, among all sexually active men, regardless of their sexual orientation or sexual attraction.

The 2009 results from heterosexuals participating in the National HIV Behavioral Surveillance (NHBS) system provide evidence to support these assertions (District of Columbia Department of Health (DCDOH), 2009a). Since 2003, the NHBS, a CDC funded survey, has been collecting risk behavior data in 25 metropolitan cities with high levels of AIDS prevalence and high poverty rates. With the assistance of local health departments, three populations, men who have sex with men (MSM), injection-drug users, and heterosexual adults, at high risk for HIV infection were targeted to determine their risk behavior, testing behavior, and use of prevention services. Study participants were required to be at least 18 years old and residents of the city surveyed. In a study of 750 heterosexual men and women in the Washington, D. C. area, a high HIV rates of HIV and risky sexual behaviors were found among a sample of predominantly heterosexual (90%), African American (92%) men (39%) and women (61%) over 30 years of age (61%) who had never been married (62%) (DCDOH, 2009b).

High-risk sexual behaviors were common among the sample. Although 74% of the study participants reported being in a committed relationship, 45% reported they had sex outside of the relationship and 46% believed their last sexual partner had sex with someone outside of the relationship in the last year. Condom use was low with only 30% of the participants using a condom the last time they had sex. Partner concurrency and having a casual sex partner was higher among men (53 and 26%, respectively) than women (40 and 19%, respectively). Over 60% used non-injection drugs (e.g. marijuana (49%), crack cocaine (22%), ecstasy (12%), heroin (10%), and powdered cocaine (8%) in the past 12 months. Nearly half, 49%, used alcohol and/or

drugs the last time they had sex; however, alcohol and/or drug use was more prevalent among men (62%) than women (41%) (DCDOH, 2009b). The study revealed that 5% of the sample was HIV positive (DCDOH, 2009b). Based on definitions developed by the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO), the CDC classifies HIV as a “severe epidemic” if the rate of HIV is greater or equal to 1% (Joint United Nations Programme on HIV/AIDS, 2003). Despite these statistics, heterosexual African American men remain absent as the target population of research and interventions for HIV and other STDs.

Lacking knowledge of personal and partner infection status is also a risk behavior. Participant knowledge of their personal and partner HIV status and testing behaviors was just as discouraging. Half of the study participants did not have knowledge of their last sex partner’s HIV status and only 61% knew their own HIV status (DCDOH, 2009b). Although 88% had ever been tested for HIV, only 61% had tested for HIV in the last year. Nearly half of the study participants, 47%, diagnosed with HIV did not previously know their status.

Male Use of HIV & STD Testing

HIV and STD testing as methods of prevention are instrumental in slowing the epidemics and reducing new infections. Specifically, testing provides knowledge of one’s status and a link to access medical care and treatment which can slow the progression of infection, and reduce serious health consequences and mortality for infected persons (CDC, 2006b; Macklin, 2005; U. S. Preventive Services Task Force [USPSTF], 2005). It also enables infected persons to take the necessary steps to prevent further transmission of HIV and STDs by practicing safer sex and informing previous and new sexual partners of the risk of infection. For the uninfected, it provides access to preventive measures to maintain an uninfected status (Macklin, 2005). Testing

is definitely crucial for reducing new infections among vulnerable and underserved populations, such as heterosexual African American men.

The empirical evidence on the burden of STDs within the African American community combined with what is known about barriers to health care underscore the importance of examining predictors of sexual health care use for African American men. Problems with access are particularly pronounced for male sexual health services, such as HIV and STD testing. Regular STD screenings as a method of prevention requires access to a source of primary health care. National health care organizations argue preventive and primary care “are crucial to maintenance of good health and prevention of serious health problems”, as well as an “important indicator of overall access to care” (AHRQ, 2008; KFF, 2007b). The National Center of Health Statistics (2010) argues that “preventive health care services improve health by protecting against disease, lessening its impact, or detecting disease at an early stage when it is easier to treat (p. 23). Consequently, access to preventive and primary care, including regular doctor visits and health screenings, may be one of the most critical factors for both chronic and infectious diseases, including STDs (KFF, 2007b).

A variety of health care facilities provide HIV and STD testing services. STD clinics located in local public health departments, health clinics operated by publically funded community-based organizations, and private health care providers are traditionally the prime clinical settings for STD screening, diagnosis, and treatment (Institute of Medicine [IOM], 1997). An analysis of the National Health and Social Life Survey, a U. S. population-based household survey, revealed that 71% of respondents obtained STD care from private health care organizations, community health center clinics, emergency rooms, or family planning clinics (Brackbill, Sternberg, & Fishbein, 1999). Although the primary source of data collection for HIV

and STD research on risk and prevention is often public health care settings, these statistics demonstrate that a significant amount of STD prevention, diagnosis, and treatment occurs outside of public STD clinics.

Montaño, Phillips, Kasprzyk, and Greek (2008) noted that primary care settings account for a large proportion of STD care and primary care clinicians can have an influence in the reduction of sexual risk behaviors of patients, especially for those who may not participate in traditional HIV and STD risk behaviors (e.g. men having sex with men, intravenous drug use, etc.). Unfortunately, men are not known for crowding the wait rooms of doctor's offices or clinics. Men (71%) were found to be less likely than women (86%) to have visited a doctor or other health professional in the past year (Pleis & Lethbridge-Çejku, 2007). The proportion of African American men (72%) to have an office visit was less than that of White men (74%). Even if men have access to primary care, it has been reported that STD screening was not a common practice among the physicians who saw them (St. Lawrence et al., 2002). Men, unlike women, do not have a routine channel to sexual (and reproductive) health services once they become sexually active (The Alan Guttmacher Institute [AGI], 2002, p. 67). Less than 25% of men were screened for common STDs, such as chlamydia (13%), gonorrhea (13%), syphilis (19%), and HIV (24%).

Limited access to and use of routine care may prevent male use of preventive health care services, such as sexual health care, and thus, contribute to the lack of research on men's use of sexual health services and predictors of use. Many existing studies are dated and primarily focused on adolescent males (Finer, Darroch, & Frost, 2003; Ma, Want, & Stafford, 2005; Marcel, Rain, & Eyre, 2003; Porter & Ku, 2000); however, those studies revealed that young men were not receiving sufficient levels of sexual and reproductive health care services such as

preventing pregnancy, AIDS, other STDs, and condom use. HIV and STD testing rates were less than 25%, and as low as 5% in one study. Mixed results occurred about the likelihood of minority men to use sexual health services. More recent inquiries have found similar conclusions of sexual health care use among men. In 2005, the Alan Guttmacher Institute (2002) reported only approximately 14% of U. S. men 15 - 49 years old made a sexual and reproductive health visit annually. Three separate studies, using the 2002 National Survey of Family Growth data, found varying rates of testing among different subpopulations of men. In an examination of measures related to sexual behavior, Mosher et al. (2005) found that U. S. heterosexual men between 15 - 44 years of age reported lower HIV and STD testing rates than men and women identifying with other sexual orientations. Nearly 80% of heterosexual men had not been tested for HIV or other STDs in the year prior to the survey (Mosher et al., p. 38). Men who were tested only for HIV, only for other STDs, or for both HIV and other STDs accounted for 7% of heterosexual men.

Another study, using the data from the 2002 National Survey of Family Growth, specifically examined national estimates of self-reported lifetime and recent HIV testing (Anderson, Chandra, & Mosher, 2005). The study revealed that 53% of men 15 – 44 years old had not tested for HIV, outside of blood donation, in their lifetime and over 85% had not tested for HIV in the last year (Anderson et al., 2005, p. 14). Most HIV testing, accounting for 45%, was also obtained in a private doctor's office or HMO. The same proportions were found by Mosher and colleagues (2005). In addition, Anderson et al. (2005) found African American men had higher rates of HIV testing than men of other racial and ethnic groups. Only 43% of African American men had never been tested for HIV in their lifetime compared to 54% of White men (Anderson et al., p. 14). Men of other races had rates slightly higher than those of White men.

Lifetime HIV testing was strongly associated with sex and drug related risk behaviors. HIV testing in the last year was also higher for African American men (Anderson et al, p. 15). Sixty-six percent of African American men had not received an HIV test in the last year compared to 88% of White men, and similar rates to White men existed for men of other races. HIV testing in the last year was strongly associated with the number of sex partners respondents' had in the last year (none and three or more), income (< 150% of the poverty level), and sex and drug related risk behaviors. The authors concluded that there is still need for targeting HIV prevention strategies, including testing initiatives, for populations at high-risk for HIV infection.

Kalmuss and Tatum (2007), also using the same data, but a different age range, examined various sexual and reproductive health services among men who have sex with women (MSW) 20 – 44 years old. They found approximately 84% of the men reported had not received HIV testing in the year prior to the survey (Kalmuss & Tatum, 2007, p. 77). An equal proportion had not received an STD test in the last year. Although the aforementioned studies examine rates of sexual health care use, the studies did not examine HIV and STD testing rates both by race and within sexual orientation, and none specifically examined HIV and STD testing among heterosexual African American men.

Several studies also highlighted predictors of HIV and STD testing among heterosexual men from various racial and ethnic minority groups. Two studies were administered in specific areas of the United States. The first study examined how HIV testing history and future testing intentions were related to sexual risk and perceptions of risk in a community sample of 1,052 heterosexual and MSM Hispanic men in South Florida (Fernández, Perrino, Royal, Ghany, & Bowen, 2002). Using an anonymous structured interview format, the authors found that over three-quarters of the sample, 76%, had tested for HIV in their and 45% of the sample had been

tested in the last year. Men who had a regular physician and a high number of sex partners were more likely to report they had been tested HIV in their lifetime and in the last year. In addition, age, being 25 years or older, was associated with lifetime HIV testing. Men with incomes less than or equal to \$30,000, men who had two to five partners and used condoms inconsistently, and men who reported more than five partners and always used condoms were more likely to express intent to test in the next six months. Men who had previously tested for HIV were the strongest predictor of an intention to test.

The study also examined reasons for testing among the sample. Possible exposure through sexual contact (39%) and a desire to know one's HIV status (11%) were the most common reason given for getting an initial HIV test (Fernández et al., 2002, p. 4). For men who had a test in the last year, "the primary reasons for testing were: (a) it was time for their regular test (18%) and (b) it was part of a regular medical check-up (16%)" (Fernández et al., p. 4). On the other hand, many respondents were also not tested. The most common reasons for never having been tested were low perceptions of HIV risk because they always practice safe sex (29%) and feelings that they did not need to be tested (28%). The authors concluded there is a need for more investigations that examine men's routine use of HIV prevention practices, including testing, to assist in the development of interventions for men who remain at risk for HIV infection.

The second study was administered in Philadelphia, Pennsylvania, with the use of personal interviews (Bond, Lauby, & Batson, 2005). The researchers sought to determine the overall prevalence of HIV testing within a community sample of 1,643 heterosexual men and women at high risk for HIV infection from eight Philadelphia neighborhoods. The authors also examined gender-specific individual- and structural-level barriers and facilitators to testing. The

majority of the sample of was male (68%) and African American (80%). Nearly 80% of sample had received an HIV test; however, men were significantly less likely to have tested than women (Bond et al., 2005, p. 5). The individual-level factors associated with a history of being tested for HIV among men were personally having known someone with HIV/AIDS and a history of intravenous drug use. Men who had (a) made one or more visits to the doctor in the past year, (b) a history of being in drug or alcohol treatment, and (c) a history of being incarcerated in the past year were the structural-level factors associated with HIV testing for men. The authors concluded that structural-level factors, specifically health care access, were important factors of HIV testing for both women and men. Efforts to increase HIV testing for high-risk heterosexual men must improve their access to, and use of, routine health care.

The next series of studies utilized large, representative population-based samples to examine predictors of HIV testing and included men. The studies demonstrate that U. S. HIV testing rates over the years, and a few decades, have remained low, especially for regular HIV testing. The findings of four population-based studies were reviewed. Two studies used data from the National Health Interview Survey (NHIS) (Inungu, 2002; Ostermann, Kumar, Pence, & Whetten, 2007); and two studies used the data from the Behavioral Risk Factor Surveillance System (BRFSS) (Ebrahim, Anderson, Weidle, & Purcell, 2004; Rountree, Chen, Brown, & Pomeroy, 2009).

The first NHIS study evaluated potential barriers to seeking HIV testing among 32,440 U. S. adults 18 years of age or older using the 1998 survey (Inungu, 2002). Adults who had never tested for HIV accounted for 66% of the sample; 30% were tested, and 4% failed to answer the question. Inungu (2002) reported that being male was associated with a decreased likelihood of reporting HIV testing. In addition, (a) young adults 18 - 24 years old and adults 50 years or

older, (b) adults with less than a high school education or those with level of education between high school to some college, (c) individuals who lived in non-metropolitan statistical area (MSA) or in a small MSA, (d) adults from the Northeast and Midwest, and (e) persons who were separated, divorced, or widowed significantly were less likely to have been tested for HIV. African Americans and Hispanics were significantly less likely to delay HIV testing compared to Whites. The majority of adults who had not been tested for HIV just did not want to get tested (58%), others felt they were not at risk of contracting HIV (38%), and a very small percentage (2%) noted that HIV testing was not recommended by their doctor or health maintenance organization (HMO). Inungu (2002) concluded that the findings highlight “the need for new approaches to fight the spread of HIV infection in the United States” (p. 1).

The second study, using NHIS data from 2000 – 2005, assessed trends in HIV testing rates over a five-year period, and differences between planned and actual testing practices across various demographic and risk groups (Ostermann et al., 2007). HIV testing rates remained low and unchanged from 2000 – 2005. Of the 146, 868 participants between 18 - 64 years old, an average 37 and 10%, respectively, were tested in their lifetime and in the last year. Minority women, individuals with HIV risk factors, and individuals with high perceived risk of HIV were more likely to have tested for HIV in both their lifetime and in the past year. In addition, adults without a source of preventive care were less likely to report HIV testing in the last year. Planned and actual testing was associated with having a higher perceived risk of HIV, more alcohol consumption, and more depressive symptoms; however, these individuals, along with adults with no regular health care, also presented the largest variance in their intent to test in the following year. The authors suggested there was still much need for improvement in the access to and use of HIV testing for high-risk populations.

The Behavioral Risk Factor Surveillance System (BRFSS) was the source of data for the next two population-based studies (Ebrahim et al., 2004; Rountree et al., 2009). Ebrahim and colleagues (2004) examined the 2001 BRFSS data to assess racial disparities in HIV testing, as well as knowledge about treatment for HIV/AIDS among 162,962 adults between 18 - 64 years of age in the United States. Approximately 45% of the sample had been tested for HIV in their lifetime and less than 13% were tested in the last year. Results demonstrated that HIV testing rates, for both lifetime testing and testing in the last year, were higher among African Americans and Latinos compared to Whites. Lifetime HIV testing and testing in the last year also varied according to age and marital status; and income was unrelated to HIV testing rates. An estimated 86% of the sample was knowledgeable about HIV treatment. On other hand, the knowledge level of Whites about HIV/AIDS treatment was higher than that of the minority populations, especially for African Americans. The authors concluded that the high rates of testing among minorities may be the result of targeted testing initiatives; and in order to decrease the knowledge gap between African American and Whites, prevention efforts need to inform minorities about treatments through culturally sensitive educational programs.

The second study using the BRFSS data used the 2005 data set to identify HIV testing rates between racial and ethnic groups (Rountree et al., 2009). The testing patterns of over one-quarter of a million U. S. men and women were studied according to various sociodemographic variables. Forty percent of the men and women had been tested for HIV in their lifetime. African Americans, women, individuals 25 - 34 years old, individuals with higher education levels (college or technical school), unmarried individuals, and individuals with low incomes were more likely to have tested for HIV. Whites and African Americans were more likely to be tested at a private doctor's office or HMO in comparison to Hispanics. Associations between HIV

testing and testing location were also examined within racial and ethnic groups. African American women were just as likely to report HIV testing as African American men. HIV testing rates varied according to income level. African Americans who (a) had been previously tested for HIV, (b) were 25 - 34 years old, (c) had attained high levels of education, and (c) were unmarried participants were more likely to have been tested for HIV. African Americans who were tested at a private doctor's office or HMO were more likely to be unmarried. Rountree et al. (2009) suggest that increasing testing access and use for culturally diverse populations requires a multi-dimensional approach to policy, research, and interventions guided by relative sociodemographic factors.

Unfortunately, studies that have investigated heterosexual African American adult males use of HIV and STD testing services are dated or nonexistent. In 1996, a study of 20,125 heterosexual clients of Los Angeles County STD clinics examined the acceptance of confidential HIV antibody testing and reasons for test refusal (Simon, Weber, Ford, Cheng, & Kerndt, 1996). Routinely collected blood specimens for syphilis were blindly tested for HIV. Nearly 36% of the sample refused HIV testing. Men and African Americans were more likely to refuse testing. Previous knowledge of one's HIV status was the most common reason for test refusal and accounted for 41% of those who refused to take an HIV test. Less than 1% of the sample tested positive for HIV; however, 55% of those who were HIV-positive refused the HIV test. Of those who tested positive and refused the test, 44% cited previous knowledge of their HIV status as the reason for refusal. The majority of this subgroup, 65%, stated their previous test result was HIV-negative. The authors concluded a client-centered counseling approach highlighting the benefits of early intervention medical and psychosocial services was needed to increase the acceptance of confidential HIV testing in this sample of heterosexual STD clients.

Another study examined predictors of HIV testing history among 426 men attending an STD clinic in Hollywood, California (Pearce et al., 1996). Heterosexual men and African-American males accounted for 15 and 12% of the study population, respectively. The authors found heterosexual men were less likely to have been tested for HIV than homosexual and bisexual men. Compared to homosexual (94%) and bisexual (82%) men, only 68% of heterosexual were tested for HIV. Men 26 - 30 years old were more likely to have tested for HIV. Also, one-third of the heterosexual men did not consider themselves at risk for HIV, despite seeking STD treatment. The reasons heterosexual African American men use HIV testing services were not investigated. The study suggested there was a need for the development of tailored educational messages on HIV testing for heterosexual men.

Grinstead, Peterson, Faigeles, & Cantania (1997) examined predictors of condom use with primary and secondary partners and HIV testing among 2,717 heterosexual African American men and women, 18 – 75 years old, who reported HIV risk behaviors. The study analyzed data from the National AIDS Behavioral Surveys. The results revealed that among those reporting a risk factor for HIV (22%), less than one quarter (24%) had been tested for HIV (Grinstead et al., 1997, p. 857). HIV testing was associated with (a) age in the early 30s, (b) a high school education or higher, and (c) a marital status of unmarried. The authors highlighted the need for future studies to understand motivators and barriers to HIV testing, including preventive behaviors, among heterosexual African Americans.

The aforementioned literature demonstrates that HIV and STD testing is associated with a variety of demographic factors, social determinants of health, and sexual risk behaviors; however, the associations can vary between racial groups and gender. Although the studies revealed that HIV and STD testing rates for African Americans were higher than those of other

racial and ethnic populations, African American men and heterosexual African American men were less likely to report a history of HIV and STD testing. Very few research studies regarding HIV and STD testing have directly targeted heterosexual African Americans. The separate literature on access to health care, sexual behaviors, and sexual health care use among heterosexual African American men confirmed more research on the subpopulation is required to understand the HIV and STD epidemic within the African American community. The combination of limited access to care, non-traditional HIV risk behaviors, and an irregular use of HIV and STD testing services may be detrimental to the health of heterosexual African American men, as well as the health of their partners. This study sheds some light on the HIV and STD testing practices of heterosexual African American men and reveals ways to increase their use of sexual health care services.

The Health Belief Model and HIV & STD Testing

The Health Belief Model (HBM) was developed in the 1950s by U. S. Public Health Service social psychologists to explain the “widespread failure of people to participate in programs to prevent and detect disease” (Janz et al., p. 46). It is a value-expectancy theory supported by two fundamental concepts: (a) “a desire to avoid illness or get well”, or value and (b) “the belief that a specific health action available to a person would prevent (or ameliorate) illness”, or expectation (Janz et al., p. 47). The Health Belief Model posits that:

people will take action either to prevent, screen for, or control ill-health conditions if they regard themselves as susceptible to the condition, if they believe it would have potentially serious consequences, if they believe that a course of action available to them would be beneficial in reducing either their susceptibility to or severity of the condition, and if they believe that the anticipated barriers to (or costs of) taking the action are outweighed by its benefits (Janz et al., p. 47).

It is comprised of six major constructs: (a) perceived susceptibility, (b) perceived severity, (c) perceived benefits, (d) perceived barriers, (e) cues to action, and (f) self-efficacy

(Janz et al., 2005). In this study, the constructs of perceived threat (a combination of perceived susceptibility and perceived severity), perceived benefits, perceived barriers and cues to action was employed as a framework to examine views on routine HIV testing and suggestions of how to increase the use of HIV and STD testing among heterosexual African American men in Champaign, Illinois. Thus, the HBM was conceptualized to obtain information on the perceived threat of HIV and STD infection, perceived benefits and barriers of HIV and STD testing, and routine HIV testing as a potential cue to both HIV and STD testing use for African American heterosexual men 18 - 44 years old. The Health Belief Model has been used in several studies to determine relationships between constructs of the model and intentions to test for HIV and STDs. This study, however, is not an attempt to fully test the Health Belief Model.

Perceived threat: perceived susceptibility and perceived severity.

Perceived susceptibility and perceived severity are the first two constructs of the Health Belief Model. Perceived susceptibility is one's belief regarding the chance of contracting a condition (Janz et al., 2005, p. 49). Perceived severity is one's belief of how serious it is to contract a condition and the consequences, both medical and social, of contraction. Perceived susceptibility and perceived severity, together, make up perceived threat or perceived risk. In examination of the potential threat of contracting HIV and other STDs, one must consider their personal sexual risk, as well as the risk of their partner(s). Mixed results have been obtained in observation of the relationship between perceived susceptibility and severity for HIV and STD testing.

The Health Belief Model was used as the theoretical framework to predict the intention of 186 Tanzanian medical students to participate in voluntary counseling and testing (VCT) for HIV (Vermeer, Bos, Mbwambo, Kaaya, & Schaalma, 2009). In other words, the study examined

one's intent to test for HIV using constructs of the HBM and the constructs most predictive of the intent to participate in VCT, focused on the stigma of people living with HIV or AIDS (PLWHA) and the fear of being stigmatized, as barriers to their participation in VCT. The authors found that HBM constructs explained 31% of the variance of intent to test for HIV. Perceived susceptibility to HIV, along with fear of being HIV-positive and self-efficacy, emerged as the significant predictors of an individual's intent to test for HIV; however, the authors concluded the Health Belief Model "accounted for a limited proportion of the explained variance in Tanzanian students' intention" to test for HIV and suggested "that adding social and cultural variables to the HBM, might improve the validity of the model in Sub-Saharan African settings" (Vermeer et al., 2009, p. 139).

On the contrary, inconsistent with HBM assumptions and the results of the study cited above, Zak-Place and Stern (2004) found a negative relationship between perceived severity and intentions to get tested for HIV among a sample of sexually active, heterosexual college students. A combination of instruments was used to examine the full health belief model to determine predictors of the intent to test for HIV and other STDs, as well as condom use. Perceived susceptibility of HIV was not related to HIV testing intentions. Perceived susceptibility and severity of an STD were not related to STD testing intentions. The authors concluded that they found little support for the Health Belief Model as a full comprehensive model in predicting HIV and STD preventive behavior among heterosexual college students.

Although these studies demonstrate a weak support of the Health Belief Model in the prediction of HIV and STD testing, constructs of the model still emerged as significant predictors. The aforementioned studies were also implemented among samples in international settings and college students, and neither directly targeted heterosexual African American men.

Results among heterosexual African American adult men may differ with the application of the Health Belief Model in examining their use of HIV and STD testing services.

Perceived benefits and perceived barriers.

Perceived benefits and perceived barriers are the third and fourth constructs of the HBM. Perceived benefit is one's belief in the effectiveness of advised and available actions to reduce the threat or seriousness of the impact of a given health condition (Janz et al., 2005, p. 49). In relation to HIV and STD testing, perceived benefit is defined as one's belief in the effectiveness of HIV and STD testing, more specifically regular testing, to reduce the threat of HIV and STD infection (exposure or transmission) or late diagnosis of infection. Perceived benefit was associated with a willingness to undertake VCT for HIV (Abebe & Mitikie, 2009). Using the HBM, the study evaluated the perception and attitude of high school students towards VCT services for HIV in a southern Ethiopian town. Students with high perceived benefits of HIV testing were more likely to have intentions to test for HIV. The authors recommended that messages about HIV testing highlight the benefits of VCT.

Two constructs of the HBM emerged as significant predictors to HIV testing in a study of gay, lesbian, and bisexual youth recruited from a conference at a southeastern U. S. university (Maguen, Armistead, & Kalichman, 2000). Perceived barriers to HIV testing materialized as a significant predictor of HIV testing, in addition to perceived susceptibility. The authors suggested there is a need to assess and clarify barriers to HIV testing for youth, including knowledge of the various sources of testing and confidentiality. Other studies highlight various psychosocial barriers to HIV testing in high-income countries, but did utilize the Health Belief Model as a framework. A low perception of risk, fear of the consequences of testing positive, and a low perception of the benefits of testing were found to hinder HIV testing (de Wit &

Adam, 2008). Additionally, structural factors, fatalism and confidentiality concerns, and fear prevented the use of HIV testing services (Awad, Sagrestano, Kittleson, & Sarvela, 2004). It was concluded that the social impact and perception of being HIV-positive should be considered in understanding the uptake of HIV testing.

Cues to action & CDC's routine HIV testing recommendations.

Cues to action is the fifth construct of the Health Belief Model. Self efficacy, the sixth model of the HBM, was not addressed in this study; thus, cues to action was also the last HBM construct reviewed for this study. Cues to action are considered to be any bodily events or environmental events that increase (stimulate) one's readiness to action (Janz et al., 2005). Unfortunately, cues to action have not been systematically studied in more recent studies regarding AIDS-related behaviors (Janz et al., p. 58). For this study, routine HIV testing facilitated through various forms of health care access was examined as a potential cue to use HIV & STD testing services among heterosexual African American men.

The revised HIV testing recommendations suggested by the CDC emphasize a broad-based, opt-out approach to HIV testing. The CDC suggests including HIV testing a part of routine clinical care as is the screening for other treatable medical conditions (CDC 2006a, 2006b). The revisions encourage all healthcare settings to screen patients 13 - 64 years old for HIV whether or not they present risk behaviors, an approach that is contrary to the traditional risk-based assessment utilized for HIV screening. The revised recommendations argue that targeted testing for HIV (performing HIV test for subpopulations of person at higher risk as a result of behavioral, clinical, or demographical characteristics) is no longer effective and "fails to identify a substantial number of persons who are HIV infected" (CDC, 2006a, p. 4). Routine testing provides new opportunities to test persons that may not perceive themselves to be at risk

for HIV, do not disclose personal risk behaviors, or may be hesitant to personally request or seek out HIV testing. For high-risk patients, the guidelines suggest routine HIV screening for pregnant women all patients initiating treatment for Tuberculosis (TB) and other STDs, such as chlamydia, gonorrhea, or syphilis (CDC, 2006a). Men who have sex with men and women who have sex with women (WSW), in addition to pregnant women and adolescents, are also targeted populations of risk for the routine screening of other STDs (CDC, 2006b).

It is important that all clinical healthcare settings are the targeted for this initiative. It is recommended that hospital emergency departments, urgent-care clinics, inpatient services, STD clinics or sites offering clinical STD services, tuberculosis clinics, substance abuse treatment clinics, other public health clinics, community clinics, correctional healthcare facilities, and primary care settings implement routine HIV screening (CDC, 2006a, p. 7). The routine HIV testing policies, if implemented, have the potential to eliminate barriers of access to HIV testing and treatment for individuals without access to primary care. The recommendations do not require a separate written or oral consent for HIV testing, but includes assent for HIV screening in the general consent for medical care. Testing is still completely voluntary, allowing patients the ability to decline the services if they are not interested in getting tested for HIV. Overall, the revised recommendations can increase the importance of annual testing for HIV and other preventable sexually transmitted diseases for those who are sexually active. To date, it has proven successful and feasible in U. S. STD clinics, emergency departments, and community health centers (Brooks, Rietmeijer, McEwen, Subiadur, & Mettenbrink, 2009; Brown et al., 2007; Myers, Modica, Dufour, Bernstein, & McNamara, 2009).

The uptake of routine HIV testing is well documented in African government health facilities and emergency care units, and among women as a part of prenatal care services

(Cockcroft, Andersson, Milne, Mokoena, & Masisi, 2007; Creek et al., 2007; Nakanjako et al., 2006; Perez, Zvandaziva, Engelsmann, & Dabis, 2006; Podhurst, Storm, & Dolgonos, 2009). Routine testing was highly accepted and increased HIV testing rates among high-risk populations unaware of their status. Comfort and willingness to accept routine testing was associated with higher HIV knowledge (Podurst et al., 2009), as well as younger age and higher education (Perez et al., 2006). The implementation of routine HIV testing was highly supported. Yet, HIV and STD screening by primary health care providers is uncommon.

A national survey of U. S. physicians reported less than one-third routinely screen patients for STDs, concluding “STD screening levels were well below practice guidelines for women and virtually nonexistent for men” (St. Lawrence et al., 2002, p. 11). In the most recent NHBS study administered in Washington, D. C., 71% of those newly diagnosed with HIV had visited a healthcare provider in the last year, yet only half (51%) were offered an HIV test. Although routine testing had not become a part of routine clinical care at the time of the study was initiated, the statistics demonstrate that many doctors were not routinely offering or performing HIV tests. The authors concluded missed opportunities may exist to diagnose individuals who have HIV, and other STDs, in primary care to prevent further transmission. Washington, D. C. implemented routine annual HIV testing for all person ages 14 - 84 in mid-2006, shortly after the start of the study (DCDOH, 2009a).

CHAPTER 3

METHODS

Introduction

A mixed-method research design was used to examine predictors and views of HIV and STD testing for heterosexual African American men. Men from the 2002 National Survey of Family Growth (NSFG) were examined in the quantitative component of the study (CDC, 2004b). Men were recruited from the community population in Champaign and Urbana, Illinois and interviewed in the qualitative component of the study. The use of a mixed methods approach provided insights into the predictors of HIV and STD testing and into ways in which heterosexual African American men might be persuaded to seek more regular and comprehensive sexual health care. It offered an opportunity to address the discrepancy between self-reported sexual risk behaviors and estimated STD incidence and prevalence within the African American community. The research design also produced a better understanding of HIV and STD testing practices among an understudied population and to enhance the validity and creditability of associations found in the analysis of survey data (Greene, Kreider, & Mayer, 2005).

There were four primary research questions in this study. The first research question examined demographic factors related to the use of HIV and STD testing. The second research question and corresponding hypotheses explored social determinants of health, access to the health care, and sexual risk behaviors as independent predictors of HIV and STD testing. Data from the 2002 NSFG, the quantitative arm of the study, was analyzed to answer the first and the second research question, and its corresponding hypotheses.

Question 1: What demographic factors of heterosexual African American men 18 – 44 years of age are associated with the use of HIV and STD testing services in the last year?

Question 2: Are heterosexual African American men 18 - 44 years of age with improved social determinants of health, access to health care, and responsible sexual behaviors more likely to report having received HIV and STD testing services in the last year?

Hypothesis 1: Heterosexual African American men 18 - 44 years of age with improved social determinants of health are more likely to report receiving HIV and STD testing services in the last year than those without improved social determinants of health.

Hypothesis 2: Heterosexual African American men 18 - 44 years of age with access to health care are more likely to report receiving HIV and STD testing services in the last year than those without access to health care.

Hypothesis 3: Heterosexual African American men 18 - 44 years of age who engaged in responsible sexual behaviors are more likely to report receiving HIV and STD testing services in the last year than those who engaged in risky sexual behaviors.

The qualitative arm of the study, guided by the conceptual framework of the Health Belief Model, addressed the third and fourth research questions. The third research question was developed to determine the views of heterosexual African American men on routine HIV testing. The fourth research question examined suggestions to increase the use of HIV and STD testing services among heterosexual African American men.

Question 3: What are the views of heterosexual African American men on routine HIV testing as recommended by the CDC?

Question 4: What do heterosexual African American men suggest will increase the use of HIV and STD testing services among their peers?

Study 1 – 2002 NSFG

Study participants and recruitment.

With STDs disproportionately affecting African Americans and heterosexual African American men being an understudied population for STD services, this study was intentional in recruiting heterosexual African American men. Men 18 - 44 years old were examined in this study. Young adult males 18 - 21 years, as well as adult males 21 - 44 years, who are African American were targeted for this study. Both of these age groups separately were of interest because they are among the age groups with high rates of STDs, including HIV, within the African American population (CDC, 2007a). The quantitative arm of the study was employed to determine what characteristics were associated with heterosexual African American men who had tested for HIV and other STDs in the last year. The inclusion criteria for the sample of the quantitative prong of this study were (a) African American, (b) male, (c) self-identified sexual orientation as heterosexual, (d) 18 - 44 years old, and (e) ever had sexual intercourse with a female.

Study procedures.

The quantitative data was obtained from the CDC's National Center for Health Statistics (NCHS) (2004b). The majority of data was obtained by accessing public data files on the NCHS website; however, a portion of the data, including sexual risk behaviors, interviewer observations, and geographic data, was removed from the public files to maintain confidentiality (NSFG, 2004). This portion of the data could be accessed by members of the research community, including students, upon the submission of a written request and research documentation. In July of 2008, a letter on university letterhead was sent by the principal

investigator to the NCHS to obtain the data. The data was received by August of 2008. Data analysis was conducted between August 2009 and March 2010.

Quantitative instrument and analysis.

The 2002 NSFG (Cycle 6) used a nationally representative multistage area probability sample of household populations in the U. S. with individuals 15 - 44 years of age (CDC, 2004b). The data was collected via laptop computers using two methods: (a) Computer-Assisted Personal Interviewing, an interviewer-administered method and (b) Audio Computer-Assisted Self-Interviewing (ACASI), a self-administered method, to ensure privacy. In-person interviews were completed with 4,928 male respondents. The use of ACASI allowed the collection of the sexual behavior data by each respondent entering his answers into a laptop computer, rather than responding directly to an interviewer. The response rate was 78% for males. Details of the sampling design and procedures are described in a separate document (Groves et al., 2005).

The sample of male respondents was filtered on four variables to obtain the sub-sample of respondents for this study: race (African American), age (18 - 44 years old), orientation (heterosexual), and ever had heterosexual vaginal intercourse (yes). African American men accounted for 21% ($n = 1029$) of the men surveyed. Questions regarding sexual orientation and sexual attraction were only asked of participants 18 years or older. Eighty-eight percent of the sub-sample ($n = 910$) was 18 - 44 years old. Eighty-six percent ($n = 779$) of the African American men 18 - 44 years old self-identified as being heterosexual. Ninety-seven percent of the heterosexual African American men, 18 - 44 years old reported they ever had heterosexual vaginal intercourse. Thus, the quantitative analysis was administered on a sample of 753 heterosexual, African American men between the ages of 18 - 44 who ever had heterosexual vaginal intercourse. All measures inquire about the occurrence and status of activities and

behaviors in one’s lifetime or within the year prior to the respondents’ interview. In this study, there are two dependent variables: (a) whether respondents had HIV testing, outside of blood donation, in the last year and (b) whether respondents had STD testing in the last year. The range of independent variables was classified into four major categories: demographics, social determinants of health, health care access, and sexual risk behaviors. PASW Statistics version 17, formerly SPSS Statistics, was used to perform the data analysis, including univariate, bivariate, and binomial multivariate logistic regression. All analyses were conducted on weighted data to yield nationally representative estimates. The use of weighted data adjusts statistics to represent the population from which the sample was drawn and thus, minimizes overestimates of the statistics. Table 2 summarizes the independent variables tested as predictors of HIV and STD testing in the last year for this study.

Table 2
Independent Predictors of HIV and STD Testing

| Demographics | SDH. | HCA | SRB |
|-----------------------------|--------------------|---------------|---------------------------|
| Age | Education | Lack of HC | Age @ 1 st Sex |
| Marital Status | Current Employment | HI Status | # of FP – 3mos |
| Ever had anal sex w/ female | Household Size | Routine PE | # of FP – Year |
| | Income | Health Status | # of FP – Life |
| | Incarceration Hx | | Sex w/ NMF |
| | Residence | | Condom LVS |
| | | | Condom LOS |
| | | | RSLPLS |
| | | | Sex w/ FIDU |
| | | | Sex w/ FWH |

Note. SDH. = social determinants of health; HCA = health care access; SRB = sexual risk behaviors; Hx = history; HC = health coverage in last year; HI = health insurance; @ = at; # = Number; FP = female partners; w/ = with; NMF = nonmonogamous female; LVS = at last vaginal sex; LOS = at last receipt of oral sex; RSLPLS = relationship status w/ last partner at last sex; FIDU = female intravenous drug user; FWH = female while high

Ultimately, the goal of the quantitative arm of the study was to identify independent predictors of testing for HIV and other STDs among heterosexual African American men, 18 - 44 years of age. First, univariate analyses were conducted to produce basic frequencies of each

variable in the study. Second, chi-square analyses were performed to reveal bivariate associations of HIV and STD testing in the last year. Lastly, a binomial multivariate logistic regression model was conducted to examine independent predictors of HIV and STD testing in the last year. The binomial multivariate logistic regression is useful to predict the presence or absence of a characteristic or outcome (dichotomous) based on values of a set of predictor variables. It is similar to a linear regression model but is suited to models in which the dependent variable is dichotomous.

The assumption is African American men with improved social determinants of health, access to health care, and who engage in responsible sexual behaviors are more likely to use HIV and STD testing services. The definitions of improved social determinants of health, health care access, and responsible sexual behaviors in this study are listed in Table 3.

Table 3
Improved Independent Predictors of HIV and STD Testing

| Improved SDH | Health Care Access | Responsible Sexual Behaviors |
|-----------------------------|-------------------------|--|
| Bachelor’s Degree or Higher | No Lack of HC | < than 18 years at 1 st sex |
| Currently Employed | Not Uninsured | < than 21 years at 1 st sex |
| No Family Member in HH | Routine PE in last year | < than 2 partners in last 3 mos |
| ≥ 400 – 499% Income of FPL | Not Fair or Poor GHS | No partners in last 3 mos |
| No Hx of Incarceration | | < than 2 partners in last 12 mos |
| Metropolitan Residence | | No partners in the last 12 mos |
| | | 1 – 4 Partners in their lifetime |
| | | Sex w/ monogamous female |
| | | Condom at last vaginal sex |
| | | Condom at last of receipt oral sex |
| | | Condom at last anal sex |
| | | Married to last SP at last sex |
| | | No Sex w/ Female IDU |
| | | No Sex while high |

Note. SDH = social determinants of health; HC = health coverage; HI = health insurance; < = less than; HH = household; PE = physical exam; FPL = federal poverty level; GHS = general health status; Hx = history; SP = sex partner; IDU = intravenous drug user

Several variables were removed, recoded, or combined for the binomial multivariate logistic regression analysis. *Jailed in the last year* and a version of *number of female sexual partners in a lifetime* were removed. The variable about whether men had spent time in jail within the last year was removed because nearly 88% ($n = 661$) of the sample responded *no* to this inquiry. Only one of the collapsed variables representing the number of female sexual partners in a lifetime was included in the model due to having fewer categories. The variable regarding the total number of months respondents' may have been without health coverage was applicable to only a subset of the sample. As a result, the total number of cases of this variable was low and it was not included in the regression analysis.

The questions measuring *history of incarceration, sex with a female having sex with others, high during sex with a female*, and *sex with a female intravenous drug user* were recoded. Men who responded *no* to certain questions or who did not report a female sexual partner in the last year were not required to answer other related questions in the survey. Consequently, these men were categorized as *system missing* cases for some variables and it required the variables to be recoded. The men who responded *no, don't know, or refuse to answer* to the variable about *jail in the last year* were directed to proceed to the inquiry about *ever spent time in jail*. As a result, the system missing cases for the variable of ever spent time in jail represent the 12% ($n = 92$) of the sample who responded *yes* to the variable *jail in the last year*. Consequently, ever spent time in jail was recoded so the system missing cases were included with the men who responded *yes* to the question and the recoded variable was used in the regression model.

Men who reported they did not have a female sex partner in the last year were directed to skip the inquiries about *sex with a female who had sex with others, high during sex with a female, and sex with a female intravenous drug user*. Representing 49 cases, or nearly 7% of the

sample, these cases were categorized as system missing. Thus, the system missing cases for sex with a female who had sex with others represent the men who had no female sex partners in the last year and were recoded as no responses. The system missing cases for high during sex with a female and sex with a female intravenous drug user were recoded as an additional new category for each variable, *no sex with a female in the last year*.

A history of having engaged in particular sexual activities and whether or not a condom was used the last time the respondent engaged in the sexual act were combined to produce aggregate variables. Three sets of variables were combined to create new categorical variables: (a) *ever had vaginal sex and condom used at last vaginal sex*, (b) *ever received oral sex from a female and condom used at last receipt of oral sex*, and (c) *ever had anal sex with a female and condom used at last anal with a female*. Each new variable resulted in the following new categories: (a) the sexual act with a condom, (b) the sexual act without a condom, and (c) never had the sexual act. The new combined variables were included in the regression analysis.

Several variables had missing cases due to responses of ‘refuse’ or ‘don’t know’ even after variables were removed, recoded, or combined; however, these variables were kept in the regression models because the total missing cases for each variable was less than 20 cases, or less than 3% of the sample. As a result, 36 cases were removed from the regression models. Thus, 717 men, instead of 753, were analyzed for the regression models. Models for HIV and STD testing were performed separately. The initial models included 28 independent variables and the subsequent models only included significant variables from the first models.

Preliminary (unweighted) analysis with SPSS version 15 demonstrated that although rates of HIV and STD testing were higher among heterosexual African American men than the men of previous studies using the 2002 NSFG (Kalmuss & Tatum, 2007; Mosher et al., 2005), a

sufficient number of heterosexual African American men were not being tested to warrant further analysis (Table 4). Additionally, the preliminary results showed a lapse in insurance coverage in the last year may have influenced the receipt of HIV and STD testing services.

Table 4

Percentage of Heterosexual African American Men 18 - 44 years old receiving HIV and STD Services by Health Insurance Status (*N* = 767)

| | Coverage (n = 510) | No Coverage (n = 267) |
|---------------------|--------------------|-----------------------|
| HIV Services | | |
| Advice | 23.3 | 22.1 |
| Testing | 62.7 | 58.4 |
| STD Services | | |
| Advice | 18.6 | 16.5 |
| Testing | 33.3 | 28.5 |

Study 2 – Views about HIV & STD Testing of Heterosexual African American Men

Study participants and recruitment.

The qualitative interviews of men in the target population provided insight into how heterosexual African American men view routine HIV testing and ways in which they might be persuaded to seek more regular and comprehensive sexual health care. It was also hoped that the study would provide an opportunity to examine the discrepancy between self-reported sexual risk behaviors and estimated STD incidence and prevalence within the African American community. Thirty men were recruited for the interviews. The inclusion criteria for study participants of the qualitative component were (a) African American, (b) male, (c) self-identify sexual orientation as heterosexual, (d) sexually active, (e) 18 - 44 years old, and (f) able to speak and read English. The age requirements were necessary because of the subject matter and the manner in which the data were collected. Participants were required to be able to function at a level that allowed them to engage in in-depth interviews and offer consent. The men were expected to be able to comfortably discuss HIV and STD testing experiences in a one-on-one interview with an African

American female interviewer, the principal investigator (PI), and have an interest in men's health issues. Details on how participants were screened on these elements are discussed below.

Participant recruiting efforts in the Champaign and Urbana area included posting and distributing the study flyer (Appendix D) to local chapters of national and community-based organizations that serve African American men. Inclusion and exclusion criteria were listed in the advertisement for the study. HIV/AIDS was not mentioned in recruitment materials because the stigma associated with HIV/AIDS and STDs might have discouraged potential participants interested in the study. Instead, the materials invited African American men, married or unmarried, to participate in a confidential study about "the importance of men's health issues in African American communities". The flyer (a) highlighted the study topic of African American male health, (b) informed participants they will be paid \$30 for an interview, (c) provided the PI's contact information, (d) stated that the project was connected to the University of Illinois at Urbana-Champaign, and (e) ensured their participation would be kept confidential.

Although agencies and groups were asked to help publicize the study, they were not involved in the research in any substantive way. To recruit interviewees that met the study criteria, flyers were posted in strategic locations in Champaign and Urbana, Illinois, as well as emailed to organizations, that are frequented by the target population and willing to promote the study. The flyer was hand delivered to and/or posted in local recreational facilities and campus facilities, including the Douglas Community Center, and various heavy trafficked dormitories and buildings on the Champaign-Urbana campus of the University of Illinois during the summer semester. Local churches and community-based organizations predominantly serving the African American population were utilized to assist in the recruitment of participants through the dissemination of the recruitment materials. An electronic version of the flyer was disseminated to

local chapters of the national undergraduate and graduate African American fraternities via email (e.g. Alpha Phi Alpha, Omega Psi Phi, Kappa Alpha Psi, and Phi Beta Sigma). The specific groups were targeted because their members tend to be African American men 18 - 44 years old, especially, the African American undergraduate and graduate fraternities.

Local health care organizations, such as the Champaign-Urbana Public Health District (CUPHD), Frances Nelson Health Center, and the Champaign County Christian Health Clinic (CCCHC) were also asked to assist in the recruitment of participants. Recruitment materials were made available on bulletin boards, in waiting rooms, posted in newsletters, sent via email, and promoted at intervention programs implemented by these health care organizations. The organizations were asked to disseminate flyers for the study at existing programs and service clinics to obtain a diverse sample of participants, especially those who may not have private insurance. Additionally, an electronic version of the recruitment materials (Appendix E) was posted in Eweek, the University of Illinois' weekly email newsletter, for the Urbana-Champaign campus faculty and staff, with the assistance of a faculty member of the PI's research committee. Interested participants were instructed to contact the PI via email for further details and to determine their eligibility for the study.

Individuals who encountered the recruitment materials and were interested in participating in the study were instructed to call a local telephone number. A pre-paid cellular telephone, in the possession of an assisting study investigator, was purchased and used to screen potential participants. The assisting study investigator pre-screened potential participants for all eligibility criteria and provided details about the study topic and interview process prior to scheduling an interview. If potential participants were eligible and still interested in participating in the study, a convenient interview time for the participant was scheduled based on the

availability of the PI and the university facilities. The eligibility criteria were assessed in-person by the principal investigator before the start of each interview. No special expertise or measures were required to assess inclusion and exclusion criteria. Eligible participants were encouraged to inform others about the study.

Study procedures.

The qualitative data were collected through interviews. Completing the interviews included the following steps: (a) administering and audio-recording the interviews; (b) transcribing the interview data; (c) reviewing transcripts for accuracy; (d) coding the data, identifying and refining key themes; and (e) writing explanations of these findings. The interviews were administered in the month of July, beginning on July 8, 2009 and ending July 24, 2009. Funding for the interviews were provided by Dr. Reginald Alston, the chair of the PI's research committee and Dr. Dale Brashers, the director of research for the study. Prior to the start of the estimated one-hour interviews, informed consent was obtained from each participant. Consent procedures included reading and signing the study consent form (Appendix A) to confirm eligibility and an agreement to participate in the interview. The consent form (a) briefly described of the purpose of the study, including the study procedures and possible risks and benefits; (b) informed the participants that they would be reimbursed \$30 for their participation; (c) stated that participation was voluntary and participants could withdraw from the study at anytime, for any reason; and (d) provided contact information, including an email address and local telephone number, for the researcher and/or the UIUC Institutional Review Board (IRB) for further information about the study. The informed consent form also included resources about local and national HIV and STD testing and counseling services on its reverse (Appendix A). A

copy of the signed consent form was provided to each participant, along with their compensation, at the end of the interview.

Participants were asked to complete a short demographic questionnaire (Appendix B) after providing the required informed consent for participation. The questionnaire included a number of closed- and open-ended questions about their (a) demographics (age and marital status); (b) social determinants of health (e.g., highest level of education, employment status, income, and history of incarceration); and (c) health care access (e.g., insurance status, usual source of health care, routine physical exam in the last year). The questions on the demographic questionnaire were adapted directly from the 2002 NSFG Survey and included to provide a description of the study population. Each questionnaire was labeled with a generic code that was matched to the audio file of each participant's interview. The generic codes allowed the investigator to track the interviews without any identifying information on the questionnaires or files. The interview began once the consent form and the demographic questionnaire were completed by each participant. Participants were also reminded to refrain from using any identifying information, such as their own name or names of others, in their responses to interview the questions.

The interviews were recorded on a portable digital audio recording device. The device was positioned near each participant to maximize the sound quality of the interview and minimize the loss of interview data due to low voice volume. All interviews were completed in less than 1.5 hours, and the majority was completed within a one-hour time frame. At the completion of each interview, participants were asked to complete required documentation on university letterhead specifying they had received the \$30 in compensation for participating in the study. Identifying participant information, including each participant's name and address,

was collected by the investigator for payment purposes and stored separately from the consent forms, demographic questionnaires, and audio recordings. The forms were submitted to the Department of Kinesiology and Community Health and the Department of Communication for accounting purposes at the completion of all thirty interviews. An assistant investigator was also present to take additional notes on participants' responses during the interviews.

Procedures were employed to protect against or minimize potential risks to participants in the qualitative arm of the study. The possible risks due to the discussion of such a sensitive topic included psychological discomfort, specifically realization of previous participation in behaviors that may have exposed them to HIV or other STDs. The likelihood of psychological discomfort is minimal because participants had the freedom to discontinue the interview at any time.

Resources about local HIV and STD testing and counseling services were made available for all participants on the reverse side of their copy of the informed consent form (Appendix A). This information was provided if the recall of past sexual relationships prompted a desire for participants' to know their HIV and/or STD status, or additional information on HIV and other STDs.

The interviews were conducted in a private office located on the University of Illinois at Urbana-Champaign (UIUC) campus. The academic institution is extremely accessible to the public, specifically by bus, and campus facilities contain rooms that provide optimal privacy and comfort for conducting interviews. Data for each interview was archived securely following each interview. The PI held the primary responsibility for data collection, safety, and monitoring. The data is stored in a secured location in the Department of Kinesiology and Community Health. Immediately following each interview the demographic questionnaires were placed in a locked file cabinet. Each interview was downloaded onto a password protected computer and an

electronic storage device prior to transcription. An external professional in transcribing audio recordings was contracted to transcribe the recorded study interviews. The electronic storage device was provided to the transcriber to minimize the portability of the interviews if they were sent via email. All interviews were delivered to the transcriber at one scheduled meeting. The transcripts were completed over a time period of 1.5 months from August to October. The interviews were transcribed verbatim, with any identifying information deleted from the transcripts. After the transcripts were completed and checked for accuracy, the recordings of the interviews, transcripts, questionnaires, and other research related materials were returned and stored in a locked file cabinet in the researcher's academic department to ensure the confidentiality of research materials. Any quotations used in publications from the data were referenced anonymously (e.g. "one participant stated..."). Any information in participant responses that may have led to the identification of research participants was removed or modified in the transcripts and reports of the study results. All consent forms were stored in a separate location from the demographic questionnaires and interview data to ensure that the participants' identities were kept confidential even in the rare case of a security breach. The data was also analyzed in a way that obscures the identity of each participant.

The principal investigator and the investigator's research committee were the only individuals to have access to de-identified data. Only the principal investigator and the investigator's primary research advisor will have access to secured study materials. Study data, including transcripts, questionnaires, and data obtained from the National Center for Health Statistics, will be kept for a minimum of five years after publication in a locked file cabinet in the Department of Kinesiology and Community Health. Keeping all data in a secure facility for five years after publication corresponds with requirements of the American Psychological

Association (APA). Risks to participants in the study were minimal, and protection from these risks guarded against or further minimized any psychological, social, or legal concerns.

The benefit of the study to scientific knowledge includes important information about the HIV and STD testing practices of an understudied, at-risk population, heterosexual African American men. The inquiry may help guide the development of interventions designed to increase the use of HIV and STD testing services among this population. The sexual practices and values of heterosexual African American men are not well-documented, making it harder to address potential sources of HIV and STD infection within the African American community. The study provided a forum for heterosexual African American men to share their views about such a major sexual health issue, including the opportunity for heterosexual African American to share their experiences and opinions about the HIV and STD epidemics among African Americans, a privilege not often afforded to this marginalized population. The interviews gave the male participants a rare opportunity to provide suggestions on how HIV and STD testing services and programs can be developed to increase their use of such services. The participants obtained knowledge about suggested policy recommendations by a national health organization to combat the epidemic. The interview inspired the participants to gain knowledge about the HIV and STD epidemics within the African American population and increase their personal use of sexual health care. The combined benefits of this study to the targeted subjects and the scientific community outweighed the minimal risks. The study was approved by the UIUC Institutional Review Board.

Qualitative instrument and analysis.

Large scale studies are unable to determine the reasons why heterosexual African American men's HIV and STD testing may vary. The primary aim of large scale studies is to

classify or quantify behaviors, perceptions, feelings, and attitudes into numbers, for example, rating scales or scores (Morgan, Glimmer, & Harmon, 2006). Such methods provide information about a certain subject, but with few details and little explanation on why an individual provided a particular response. The interviews proved useful in extending the limited literature on the men's use of HIV and STD testing by allowing the participants to provide reasons why them or their peers may or may not use HIV and STD testing services, including perceptions of HIV and other STDs as a threat to their sexual health their personal HIV and STD testing patterns, beliefs about CDC's recommendation of routine HIV testing, and how the participants and their peers can be persuaded to increase their use of such services. Each participants completed a brief questionnaire (Appendix B) that primarily included closed-ended questions about their (a) demographic factors; (b) social determinants of health (e.g., age, highest level of education, income, marital status, current job status, history of incarceration); (c) health care access (e.g., insurance status, usual source of health care, routine physical exam); and (d) personal health status. The demographic questionnaire was included to provide a description of the study population.

Next, participants were engaged in a one-on-one interview with the principal investigator. The interview schedule was conceptualized based on constructs of the Health Belief Model, which was used as a guide to frame the results of the interviews. The interview schedule was divided into five domains: (a) introduction/ rapport, (b) threat of HIV and other STDs to their sexual health, (c) male sexual health care use, (d) views about routine HIV testing, and (e) suggestions of how to increase HIV and STD testing among the study population (Appendix C). Perceived threat of HIV and other STDs, the combination of perceived susceptibility and perceived severity, was measured by the first two domains of the interview. The first series of

items were designed to establish a rapport with the participants and address general information, including current relationship status and beliefs about sexual health as a part of their health status. The second series of questions were asked to determine if heterosexual African American men perceived HIV and other STDs as a threat to their sexual health. Opinions, views, and knowledge about HIV and other STDs, as well as precautions taken to prevent infection, were addressed in these areas of the interview.

Perceived benefits of and perceived barriers to HIV and STD testing were measured by various items in the third and fourth domains of the interview schedule. The third series of items obtained information on their personal use of HIV and STD testing services, including frequency and motivations. The fourth series of questions, the primary focus of the third research question, addressed the participants' awareness of and feelings about routine HIV testing. Finally, the fifth series of items tackled the fourth research question of how the use of HIV and STD testing among heterosexual African American men could be increased. Participants were asked questions that allowed them to provide detailed ideas on campaigns and programs that they believe would be most effective. No studies currently exist that have explored the views of routine HIV and STD testing among the heterosexual African American men in the United States. As a result, the domains for the qualitative interview schedule (Appendix C) were based on the investigator's professional involvement and researched literature regarding issues of sexual health and sexual health care use.

A professional transcriber was contracted to convert the audio-recorded interviews into written narratives to prepare for the qualitative analysis. The transcriptions of each participant were examined to discover patterns in the subjects' responses across interviews and for main themes that corresponded to the theoretical constructs of the HBM. A variable oriented analysis

was used to analyze the data obtained through the interviews (Miles & Huberman, 1994). The approach compliments the use of the Health Belief Model as a theoretical foundation for this study due to its tendency to be conceptual and theory centered. Although variable-oriented analysis is utilized with large and representative samples to identify relationships among variables, it can also be very helpful in examining themes across cases. To uncover the thematic variables, notes from the transcriptions and notes from the assistant researcher were categorized by identifying the (a) frequency of statements, (b) magnitude of statements, (c) contextual structures, and (d) description of processes (Babbie, 2005). The primary purpose is to reach a partial, overall explanation of the subjects' beliefs about routine HIV testing by using a relatively few number of variables. Drawing on the main constructs of *perceived threat*, *perceived benefit*, *perceived barriers*, and *cues to action*, a number of open and close ended questions were included to identify factors that describe the views of heterosexual African American men about HIV and STD testing services.

CHAPTER 4

RESULTS

Introduction

The results of this study are a summary of data analyzed from the 2002 National Survey of Family Growth and information received from participants of the in-person interviews. The quantitative element of this study examined a subpopulation of male respondents surveyed in the 2002 National Survey of Family Growth. The data was filtered on four characteristics: (a) race, (b) age, (c) sexual orientation, and (d) history of sexual intercourse to obtain the study sample. Respondents of study sample were (a) Black or African American, (b) 18 - 44 years old at the time of the interview, (c) a self-reported heterosexual, and (d) a history of sexual intercourse with a female. The purpose of the quantitative arm of the study was to identify predictors for the use of HIV and STD testing services using the 2002 National Survey of Family Growth. In the qualitative element of the study, I sought to obtain opinions about HIV and STD testing among heterosexual African American men, including determine their views about routine HIV testing and obtain suggestions of how to increase the use of HIV and STD testing services among heterosexual African American men 18 - 44 years old. The majority of existing research on HIV and STD testing does not target heterosexual African American men. This mixed methods approach will provide insights into the predictors of HIV and STD testing and into ways in which African American men might be persuaded to seek more regular and comprehensive sexual health care. It will also provide an opportunity to address the discrepancy between self-reported sexual risk behaviors and estimated HIV and STD incidence and prevalence within the African American community.

Study 1 - Quantitative Results

Sample characteristics and bivariate associations – 2002 NSFG.

The data from 2002 National Survey of Family Growth addressed the first and second research questions. The quantitative results are presented in five sections: (a) sexual health care use, (b) demographics, (c) social determinants of health, (d) health care access and status, and (e) sexual risk behaviors. The selected items related to sexual health care use of HIV and STD testing was categorized as the dependent variables. Other items related to demographics, social determinants of health, health care access, and sexual risk behaviors were the independent variables. Within each section, univariate and bivariate statistics were highlighted. The bivariate associations reveal the relationships between the dependent variables of sexual health care use, and various independent variables. An alpha of $\leq .05$ was used to determine significance level. Last, binomial multivariate logistic regression was performed to determine the independent predictors of sexual health care use among the targeted sample. Research questions one and two, along with its corresponding hypotheses, are as follows:

Question 1: What demographic factors of heterosexual African American men 18 – 44 years of age are associated with those who have received HIV and STD testing services in the last year?

Question 2: Are heterosexual African American men 18-44 years of age with improved social determinants of health, access to health care, and more responsible sexual behaviors more likely to report having received HIV and STD testing services in the last year?

Hypothesis 1: Heterosexual African American men 18 - 44 years of age with improved social determinants of health are more likely to report receiving HIV and STD testing

services in the last year than those without improved demographic factors and social determinants of health.

Hypothesis 2: Heterosexual African American men 18 - 44 years of age with access to health care are more likely to report receiving HIV and STD testing services in the last year than those without access to health care.

Hypothesis 3: Heterosexual African American men 18 - 44 years of age who engaged in responsible sexual behaviors are more likely to report receiving HIV and STD testing services in the last year than those who engaged in risky sexual behaviors.

Sexual health care use.

The study sample from the National Survey of Family Growth was composed of 753 African American men, 18 - 44 years old, who were heterosexual and ever had sexual intercourse with a female. Sexual health care use was examined with items regarding HIV and STD testing in the last year. Specifically, *HIV testing and STD testing in the last year* were categorized as the dependent variables. As shown in Table 5, HIV and STD testing in the last year, along with whether or not respondents had received *HIV testing in their lifetime, HIV and STD advice in the last year, and STD treatment in the last year*, were selected to examine items related to sexual health care use. Over 70% ($n = 554$) of the men have been tested for HIV in their lifetime. Less than one-third of the men, 31% ($n = 231$), were tested for HIV test in the last year prior to the interview; and 80% ($n = 599$) of the men had not received advice or counseling from a doctor or other medical care provider about HIV or AIDS in the last year.

Table 5

Heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected characteristics of sexual health care use, 2002 National Survey of Family Growth ($N = 753$)

| Sexual Health Care | <i>n</i> | % |
|--------------------------------|----------|------|
| HIV testing – Ever | 554 | 73.6 |
| HIV testing – In last year | 231 | 30.6 |
| HIV/AIDS advice – In last year | 154 | 20.5 |
| STD testing - In last year | 233 | 30.9 |
| STD advice – In last year | 119 | 15.8 |
| STD treatment – In last year | 40 | 5.3 |

Similar to HIV testing, 31% ($n = 233$) were tested for other STDs, such as gonorrhea, chlamydia, syphilis, or genital herpes, by a doctor or other medical care provider in the last year. One respondent did not provide an answer to this survey item. In addition, 84% ($n = 634$) of the men reported they did not receive advice or counseling from a doctor or other medical care provider about STDs in the last year. A very small proportion of the men, 5% ($n = 40$), reported they received treatment for other STDs, such as gonorrhea, chlamydia, syphilis, or genital herpes, in the last year. Two respondents did not provide an answer to this survey item. Testing rates among heterosexual African American men in this study were higher than other studies that examined HIV and STD testing among U. S. men and women using the 2002 NSFG data (Anderson et al., 2005; Kalmuss & Tatum, 2007; Mosher et al., 2005).

Demographics.

The target population of the study and source of the data resulted in the demographic variables of sex, race, age, and sexual orientation being used to select the study sample. As a result, the demographic section of the study includes an analysis of the survey items that examined the *age* and *marital status* of the respondents, and specific sexual activities of the male respondents. The categorization of some sexual activities as demographic variables was based on

the items addressing lifetime occurrence of sexual activities, not safe sexual practices such as condom use while engaging in the activities. Other potential demographic variables such as highest education level, employment status, and income were considered as social determinants of health in this study and were presented along with other similar variables. Age and marital status were associated with both HIV and STD testing. Men having engaged in particular sexual activities was not associated with HIV testing; however, some sexual activities were associated with STD testing. Detailed statistics are shown in Table 6.

Table 6

Heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected demographic characteristics, 2002 National Survey of Family Growth (*N* = 753)

| Demographic Variable | <i>n</i> | % |
|---|----------|------|
| Age | | |
| 18 – 24 years | 215 | 28.5 |
| 25 – 34 years | 267 | 35.5 |
| 35 – 44 years | 271 | 36.0 |
| Marital status | | |
| Married | 281 | 37.3 |
| Widowed | 1 | 0.2 |
| Divorced | 54 | 7.2 |
| Separated | 23 | 3.0 |
| Never married | 394 | 52.3 |
| Vaginal, oral, or anal sex w/ female – Ever | 732 | 97.3 |
| Vaginal sex, alone – Ever | 723 | 96.0 |
| Oral sex gave, alone – Ever | 544 | 72.3 |
| Oral sex received, alone – Ever | 637 | 84.7 |
| Anal sex, alone – Ever | 268 | 35.5 |
| Oral or anal sex w/ male - Ever | 22 | 2.9 |

Age was the only continuous variable examined in this study; however, it was analyzed as both a continuous and categorical variable. As a continuous variable, the average age of African American men in this study was approximately 31 (30.89) years of age, with a standard deviation of 7.87. Since the age requirement of 18 - 44 years was used as a filter, the youngest man in the sample was 18 years old and the oldest man was 44 years old, for a range of 26 years.

As a categorical variable, 29% ($n = 215$) of the men were between 18 - 24 years old, 36% ($n = 267$) were 25 - 34 years old, and 36% ($n = 271$) were 35 - 44 years of old. Age was associated with HIV and STD testing. Men who were 25 - 34 years old, 49% ($n = 105$), were more likely to have reported they had been tested for HIV in the last year than the other age groups, $\chi^2 (2, 753) = 17.435$, $p < .001$, $V = .152$; however, the association between age and HIV testing was weak. On the other hand, men 18 - 24 years old at the time of the interview, 39% ($n = 83$) were more likely to report they had been tested for an STD in the last year, $\chi^2 (2, N = 753) = 18.069$, $p = .001$, $V = .152$. The association between age and STD testing was also weak, but equal in strength to that between age and HIV testing.

A formal marital status of never married was common among the sample. Over half of the respondents, 52% ($n = 394$), reported a marital status of never married. Thirty-seven percent ($n = 281$) of the men were married. Widowed and divorced men accounted for 7% ($n = 55$) of the sample. Marital status was associated with HIV and STD testing. Men who reported a marital status of widowed or divorced, 49% ($n = 27$), were more likely to report being tested for HIV in the year prior to the interview, $\chi^2 (3, N = 753) = 16.194$, $p = .001$, $V = .147$. The association between marital status and HIV testing was weak. In contrast, separated men, 39% ($n = 9$), were more likely to have had STD testing in the last year, $\chi^2 (3, N = 751) = 26.160$, $p < .001$, $V = .187$. The association between marital status and STD testing was weak, but stronger than the association between marital status and HIV testing. It was also the strongest bivariate association among all the demographic variables examined in this study.

Respondents were asked if they had engaged in specific sexual activities, whether with men or women. Ninety-seven percent ($n = 732$) of the men reported that they *ever had vaginal, oral, or anal sex with a female*. The inquiries about the various sexual activities were asked

separately. Among the sample, 96% ($n = 723$) reported they had vaginal intercourse. Oral sex with females was also common among the sample. Nearly three-quarters of sample, 72% ($n = 544$), had ever given oral sex to a female. More men, 85% ($n = 637$), reported having received oral sex from a female. Slightly over one-third, 34% ($n = 268$), ever had anal sex with a female. Responses to the inquiries about vaginal, oral, and anal sex with a female were missing for less than 2% of the sample.

Men who reported being tested for HIV in the last year did not vary according to whether or not the men engaged in the various sexual activities; however, having been tested for an STD did vary according to whether men in the sample engaged in various sexual activities. Men who reported they had anal sex with a female, 37% ($n = 98$), were more likely to report they had tested for an STD in the last year, $\chi^2(1, N = 740) = 5.271, p = .022, \Phi = .084$. Yet, the association between anal sex and STD testing was weak. On the other hand, men who never had vaginal intercourse with a female, 59% ($n = 10$), were more likely to had tested for an STD, $\chi^2(1, N = 740) = 6.102, p = .014, \Phi = -.091$. This association was also weak. STD testing did not vary according to whether or not the men had ever received oral sex from a female, $\chi^2(1, N = 739) = .400, p = .527$, or gave oral sex to a female, $\chi^2(1, N = 739) = 1.412, p = .235$.

A small proportion of the men, less than 3% ($n = 22$), reported *having oral or anal sex with a male* in their lifetime. The men also reported engaging in sexual activities with a female. Thus, very few heterosexual men in the sample engaged in sexual activities with both men and women. As a result of the assumptions that bi-sexual activities of African American men on the down-low is the predominant source of HIV infection for African American women, bivariate analysis was also administered to determine if an association existed between men who ever had vaginal, oral, or anal sex with a female and men who ever had oral or anal sex with a male in this

sample. There was not an association between these two variables, $\chi^2 (1, N = 753) = .650, p = .420$.

Social determinants of health.

Characteristics related to education, employment, income, and incarceration were categorized as social determinants. Specifically, (a) *highest level of education*, (b) *employment status*, (c) *the number of family members in the household*, (d) *income as a percentage of poverty*, (e) *history of incarceration (lifetime and in the last year)*, (f) *place of residence*, and (g) *general health status* were items selected to examine the respondents’ social determinants of health. Education level, employment status, income, and history of incarceration ever or in the last year were not associated with having had an HIV test in the last year. HIV testing was associated with the number of family members in the respondents’ household, and place of residence. STD testing in the last year was associated with education, employment status, household size, incarceration in the last year, and place of residence. Income and lifetime history of incarceration were not associated with STD testing. Table 7 presents the detailed statistics for each variable.

Table 7

Number and percent of heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected social determinants of health, 2002 National Survey of Family Growth ($N = 753$)

| Social Determinants of Health | <i>n</i> | % |
|---|----------|------|
| Education – highest level achieved | | |
| 12 th grade or less, no graduation | 115 | 15.3 |
| High school graduate | 332 | 44.1 |
| Some college, no degree | 145 | 19.3 |
| Associate degree | 70 | 9.3 |
| Bachelor’s degree or higher | 91 | 12.1 |
| Currently employed | 612 | 81.3 |

Table 7 (cont.)

Number and percent of heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected social determinants of health, 2002 National Survey of Family Growth ($N = 753$)

| Social Determinants of Health | <i>n</i> | % |
|---|----------|------|
| Family members in household | | |
| None | 152 | 20.2 |
| One | 163 | 21.7 |
| Two | 164 | 21.8 |
| Three | 144 | 19.1 |
| Four | 79 | 10.5 |
| Five or more | 50 | 6.6 |
| Income as % age of FPL | | |
| 0 – 99 % | 124 | 16.4 |
| 100 – 199% | 181 | 20.4 |
| 200 – 299% | 148 | 19.6 |
| 300 – 399% | 120 | 15.9 |
| 400 – 499% | 78 | 10.3 |
| 500 – 599% | 104 | 13.8 |
| Jail, prison, juvenile detention – Ever | 160 | 21.2 |
| Jail – In last year | 92 | 12.2 |
| Residence – Metropolitan (MSA) | | |
| MSA, central city (> 500k pop.) | 320 | 42.5 |
| MSA, other (50 – 500k pop.) | 351 | 46.6 |
| Not MSA (<50k) | 82 | 10.9 |

The majority of African American men examined in this sample, 85% ($n = 638$), had completed at least a high school diploma or G.E.D. or both. Men who reported having a high school diploma or G.E.D represented 44% ($n = 332$) of the sample. Less than one-fifth of the men, 19% ($n = 145$), reported some college, but no degree. Less than 10% ($n = 70$) had obtained an associate degree from a college or university. A bachelor's degree or higher in education was completed by 12% ($n = 91$) of the sample. Level of education was not associated with HIV testing, $\chi^2(4, N = 753) = 7.160, p = .128$; however, STD testing was weakly associated with level of education. Men with an associate's degree, 43% ($n = 30$) were more likely to report they had tested for an STD in the last year than men with less or more education, $\chi^2(4, N = 751) = 12.100, p = .017, V = .127$. A large proportion of the men in the sample, 81% ($n = 612$), were employed.

Employment status was not associated with HIV testing in the last year $\chi^2 (1, N = 753) = .924, p = .336$. Employment status was weakly associated with STD testing. Men who were unemployed, 45% ($n = 64$), were more likely to report they had tested for an STD in the last year than men with employment, $\chi^2 (1, N = 752) = 16.842, p < .001, \Phi = -.150$.

Household size varied among the men in the sample. Nearly an equal proportion of men examined in the study, 20%, had three family members or less in their household. Households with four or more family members accounted for approximately 17% ($n = 129$) of the sample. Household size was associated with HIV testing. Men without any family members in their household, 41% ($n = 63$), were more likely to report being tested for HIV in the year prior to the interview, $\chi^2 (5, N = 752) = 18.200, p = .003, V = .156$, than men with one or more family members in their household. The association between household size and having tested for HIV in the last year was weak, but it was the strongest bivariate association among all variables selected to measure social determinants of health. A weak association also occurred between household size and STD testing. Men without any family members in their household, 39% ($n = 59$) were more likely to have received STD testing in the last year than men with one or more family members in their household $\chi^2 (5, N = 752) = 12.260, p = .031, V = .128$.

Income levels, reported as a percentage of the federal poverty level (FPL), also varied among the sample. Twenty percent ($n = 181$) of the sample reported income levels 100 – 199% of FPL. Nearly 20% ($n = 148$) had income levels 200 – 299% of FPL. Higher income levels (400 – 499% and 500 – 599% of FPL) were less common among the sample. Income was associated with having had an HIV test in the last year. Men who reported income levels 300 – 399% of FPL were more likely to have received HIV testing in the last year, $\chi^2 (5, N = 753) = 15.095, p = .010, V = .141$, than men who reported less or more income levels. The association was weak.

There was not an association between income and STD testing in the last year, $\chi^2 (5, N = 751) = 3.287, p = .636$.

The majority of the men, 66% ($n = 499$), examined for this study had never spent time in jail, prison, or juvenile detention. Twelve and a half percent of the sample did not provide a response at all. History of incarceration was not associated with HIV, $\chi^2 (1, N = 659) = .685, p = .408$ or STD testing in the last year, $\chi^2 (1, N = 657) = .248, p = .619$. Incarceration in the last year prior to the time of the interview was also examined among the study sample. Twelve percent ($n = 92$) of the men reported they had spent time in jail during the last year. Although incarceration in the last year was not associated with HIV testing, $\chi^2 (1, N = 752) = 2.004, p = .157$, it was weakly associated with STD testing. Men who reported they had spent time in jail during the last year, 45% ($n = 41$), were more likely to have tested for an STD in the last year than those who had not spent time in jail $\chi^2 (1, N = 752) = 9.042, p = .003, \Phi = .110$.

Metropolitan areas (50,000 or more population) were the place of residence for 89% ($n = 671$) of the men in the sample. Fewer men, 11% ($n = 82$), did not reside in a metropolitan area (< 50,000 population). Place of residence was associated with both HIV and STD testing in the last year. Men who reported their place of residence as 'msa, other' (50,000 – 500,000 population), 33% ($n = 116$), were more likely to have received an HIV test in the last year $\chi^2 (2, N = 753) = 6.891, p = .032, V = .096$, than men living in other residential areas. Unfortunately, the association was very weak. Men who reported their place of residence as 'msa, other', 38% ($n = 132$), were also more likely to have had an HIV test in the last year, $\chi^2 (2, N = 752) = 14.112, p = .001, V = .137$, than men living in other residential areas. Although the association between place of residence and STD testing was stronger than that of HIV testing, it was still weak.

Health care access and health status.

Items related to insurance status, access to routine care, and general health status was selected to examine respondents' level of health care access and their general state of health. Items measuring *lack of health coverage in the last year, total number of months without coverage, type of health insurance coverage, receipt of a routine physical exam, and general health status in the last year* were chosen to examine health care access among the respondents. Insurance status, type of health insurance, and receipt of a routine physical exam was associated with both HIV and STD testing. The number of months without coverage and the respondents' general health status was not associated with HIV testing. STD testing was associated with the number of months without coverage, but not general health status. The detailed statistics are highlighted in Table 8.

Table 8

Number and percent of heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected characteristics of health care access, 2002 National Survey of Family Growth ($N = 753$)

| Health Care Access | <i>n</i> | % |
|---|----------|------|
| Lack of health coverage – In last year | 261 | 34.7 |
| Number of Months w/out health coverage* | | |
| Less than 6 months | 53 | 20.3 |
| 6 months or more | 208 | 79.7 |
| Health insurance coverage status | | |
| Uninsured | 167 | 22.1 |
| Private coverage | 439 | 58.3 |
| Medicaid | 59 | 7.8 |
| Other Public/ Gov't/ State/ Military | 88 | 11.7 |
| Routine Physical Exam – In last year | 443 | 58.9 |
| General Health Status | | |
| Excellent | 277 | 36.8 |
| Very Good | 271 | 36.1 |
| Good | 156 | 20.8 |
| Fair | 42 | 5.6 |
| Poor | 5 | 0.7 |

Note. * $N = 261$, otherwise $N = 753$

The majority of men, 65% ($n = 491$), reported they did not lack health coverage at any time in the last year. Over one-third, 35% ($n = 261$), reported they lacked health coverage at some point in the last year. Insurance status was associated with HIV and STD testing. Men who did not lack health coverage, 34% ($n = 169$), were more likely to have had an HIV test than men who lacked health coverage, $\chi^2(1, N = 753) = 9.988, p = .002, \Phi = -.115$. The association between insurance status and HIV testing was weak. Men who did not lack health coverage, 34% ($n = 164$), were also more likely to report being tested for an STD, $\chi^2(1, N = 752) = 4.063, p = .044, \Phi = -.074$. This association was extremely weak.

Nearly 80% ($n = 208$) of the 261 men who lacked health coverage were without health coverage for at least six months or more. Fifty-four percent ($n = 141$) were without health coverage for the entire year. The number of months without coverage was not associated with HIV testing, $\chi^2(1, N = 261) = 1.726, p = .189$, but it was associated with STD testing. Men who reported they lacked health coverage for less than six months, 38% ($n = 20$), were more likely to have tested for an STD in the last year, $\chi^2(1, N = 262) = 4.451, p = .035, \Phi = .130$, than men who lacked health coverage for six months or more. Still, the association between number of months without health coverage and STD testing was weak.

The primary source of health insurance was a private health insurance plan. Men with private health insurance coverage accounted for 58% ($n = 439$) of the sample (Table 8). The uninsured, men not covered by any health insurance plan, represented 22% ($n = 167$) of the respondents. Less than 20% ($n = 147$) of the sample was covered by public insurance. Medicaid was a source of insurance for nearly 8% ($n = 59$) of the sample. Other types of public insurance, including government, state, or military health care, accounted for 12% ($n = 88$) of the sample. Men covered by Medicaid, 46% ($n = 27$), were more likely to report they had an HIV test, $\chi^2(3,$

$N = 753$) = 19.426, $p < .001$, $V = .161$, than men with all other types of health insurance.

However, the association was weak. Men with Medicaid, 53% ($n = 31$) were also more likely to have had STD testing, $\chi^2(3, N = 752) = 25.129$, $p < .001$, $V = .183$. Although the association with STD testing was stronger than the association with HIV testing, it was also weak in strength.

More than half of the men, 59% ($n = 443$), reported having had a routine physical exam in the last year before the survey; however, a sizeable proportion, 41% ($n = 310$), had not received a physical exam. Men who received a routine physical exam, 44% ($n = 194$), were more likely to have tested for HIV in last year, $\chi^2(1, N = 753) = 86.200$, $p < .001$, $\Phi = .338$, than men who had not received a physical exam. The association between having had received a routine physical exam and HIV testing was moderate in strength and the strongest bivariate association of all variables selected to measure health care access. Men who reported having had a routine physical exam, 41% ($n = 182$) were also more likely to have tested for an STD in the last year, $\chi^2(1, N = 752) = 50.765$, $p < .001$, $\Phi = .260$, than men who reported they did not have a routine physical exam in the last year. Unlike HIV testing, the association between having had received a routine physical exam and STD testing was weak.

The men observed in this study considered themselves to be in 'good' health or better. The majority of men, 37% ($n = 277$), reported their general health was 'excellent'. A similar proportion, 36% ($n = 271$), reported 'very good' general health. One-fifth of the sample, 21% ($n = 156$), reported their general health status was 'good'. A small proportion of the men, 6% ($n = 47$), had a general health status of 'fair' or 'poor'. Neither HIV testing, $\chi^2(3, N = 753) = 2.909$, $p = .406$, nor STD testing, $\chi^2(3, N = 753) = 6.466$, $p = .091$, varied according to general health status.

Sexual risk behaviors

Behaviors related to age at first sex, having multiple or risky female sexual partners, unprotected sex, relationship status with the last sexual partner, and personal and partner substance abuse were categorized as sexual risk behaviors for this study. *Age at first sex* (collapsed), *number of female sexual partners in the last three months* (not collapsed and collapsed), *number of female sexual partners in the past year* (collapsed), *number of female sexual partners in a lifetime*, and *relationship status with last sexual partner at last sex* were found to be associated with HIV testing. Age at first sex (not collapsed), number of female sexual partners in the past year (not collapsed), *sex with a non-monogamous female*, *condom use at last vaginal sex*, *condom use at last receipt of oral sex from a female*, and *condom use at last anal sex with a female*, *sex while high*, and *sex with a female intravenous drug user* were not associated with HIV testing. Number of female sexual partners in the last three months (not collapsed and collapsed), number of female sexual partners in the past year (not collapsed and collapsed), *sex with a non-monogamous female*, *condom use at last vaginal sex*, relationship status with last sexual partner at last sex, *sex while high*, *sex with a female intravenous drug user* were associated with STD testing. Age at first sex (not collapsed and collapsed), number of female sexual partners in a lifetime, *condom use at last receipt of oral sex from a female*, and *condom use at last anal sex with a female* were not associated with STD testing. The detailed statistics are reviewed in Table 9.

Table 9

Number and percent of heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected sexual risk behaviors, 2002 National Survey of Family Growth ($N = 753$)

| Sexual Risk Behaviors | <i>n</i> | % |
|---|----------|------|
| Age at first sex | | |
| 12 yrs and younger | 114 | 15.2 |
| 13 – 14 years | 164 | 21.8 |
| 15 – 16 years | 249 | 33.1 |
| 17 – 18 years | 132 | 17.6 |
| 19 – 20 years | 46 | 6.1 |
| 21 years and older | 47 | 6.3 |
| Number of female sex partners – Last 3 months | | |
| None | 105 | 13.9 |
| 1 partner | 555 | 73.7 |
| 2 partners | 60 | 8.0 |
| 3 or more partners | 33 | 4.4 |
| Number of female partners – In last year | | |
| None | 38 | 5.0 |
| 1 partner | 478 | 63.4 |
| 2 partners | 94 | 12.5 |
| 3 partners | 72 | 9.5 |
| 4 – 5 partners | 37 | 4.9 |
| 6 or more partners | 35 | 4.6 |
| Number of female partners – Lifetime | | |
| 1 – 2 partners | 92 | 12.2 |
| 3 – 4 partners | 121 | 16.1 |
| 5 – 6 partners | 107 | 14.2 |
| 7 – 8 partners | 123 | 16.4 |
| 9 – 12 partners | 77 | 10.2 |
| 13 – 16 partners | 58 | 7.7 |
| 17 – 20 partners | 42 | 5.6 |
| 21 – 30 partners | 64 | 8.5 |
| 31 or more partners | 68 | 9.0 |
| Sex w/ female having sex w/ others | 145 | 19.3 |
| Condom at last vaginal se | 304 | 40.3 |
| Condom at last receipt of oral sex from female | 58 | 7.7 |
| Condom at last anal sex w/ female* | 116 | 42.5 |
| Relationship Status w/ last sex partner at last sex | | |
| Married | 283 | 37.5 |
| In a relationship | 337 | 44.7 |
| Not in a relationship | 134 | 17.7 |
| Sex w/ female IDU – In last year | 25 | 3.3 |
| High during sex w/ female – In last year | 266 | 35.3 |

Note. * $N = 267$; otherwise $N = 753$

Many of the respondents reported they were teenagers when they first had sexual intercourse. The majority, 33% ($n = 249$), were either 17 or 18 years old when they first had sex. Over one-fifth of the men, 22% ($n = 164$), were 15 or 16 years old. Approximately 12% ($n = 93$) were 19 years or older when they first had sexual intercourse. Age at first sex was examined in bivariate analysis with categories collapsed and not collapsed. HIV testing, $\chi^2 (5, N = 752) = 8.493$, $p = .131$, and STD testing, $\chi^2 (5, N = 749) = 9.889$, $p = .078$, in the last year did not vary according to age at first sex with the categories not collapsed. Age at first sex was then collapsed into a binomial variable: (a) less than 18 years old and (b) 18 years and older. It was also examined in bivariate analysis. Men less than 18 years old the first time they had sex were compared to men 18 years or older on the dependent variables, HIV and STD testing. A weak association occurred between age at first sex and HIV testing. Men who were less than 18 years of age at first sex, 32% ($n = 196$), were more likely to had tested for HIV in the last year than men 18 years of age or older, $\chi^2 (1, N = 753) = 4.263$, $p = .039$, $\Phi = .075$. It was not associated with having had an STD test in the last year, $\chi^2 (1, N = 751) = .070$, $p = .791$.

The number of female sexual partners in the last three months, number of opposite-sex partners in the past year, number of opposite-sex partners in a lifetime, and sex with a female having sex with others in the last year were examined as items related to a respondent having engaged in sexual intercourse with multiple and risky sexual partners. Few men reported multiple partners in the last three months. Nearly three-quarters of men in the sample, 74% ($n = 555$) reported only one female sexual partner in the last three months. Almost 14% ($n = 105$) of the men did not have any female sexual partners in the last three months. Men with two female sexual partners in the last three months (not collapsed), 41% ($n = 25$), were more likely to had tested for HIV in the last year than men with less or more partners, $\chi^2 (3, N = 753) = 8.002$, $p =$

.046, $V = .103$. The association between number of female partners in the last three months (not collapsed) and HIV testing was weak. On the other hand, men with three or more partners in the last three months, 49% ($n = 16$), were more likely to have reported STD testing in the last year, $\chi^2 (3, N = 752) = 14.064$, $p = .003$, $V = .137$. Although stronger than the association with HIV testing, the association between number of female partners in the last three months and STD testing was also weak.

Number of female sexual partners in the last three months was also collapsed into a binomial variable for bivariate analysis. Men with less than two female sexual partners in the last three months were compared to those with two or more female sexual partners in the last three months. HIV and STD testing varied according to the number of female sexual partners in the last three months (collapsed). Men with two or more partners, 40% ($n = 37$), were more likely to report they had an HIV test in the last year than men with less than two partners, $\chi^2 (1, N = 753) = 4.139$, $p = .042$, $\Phi = -.074$. The association with HIV testing was weak. They were also more likely to report they had tested for an STD in the last year, 47% ($n = 44$) than men with less than two partners in the last three months, $\chi^2 (1, N = 752) = 13.231$, $p < .001$, $\Phi = -.133$. The association between number of female sexual partners (collapsed) and STD testing was also weak, but stronger than the association with HIV testing.

The majority of men, 63% ($n = 478$), also reported having only one female sexual partner in the last year. Men with two female sexual partners in the past year accounted for 13% ($n = 94$) of the sample. Nearly 10% ($n = 72$) of the men reported having three female sexual partners in the last year. HIV testing did not vary according to number of female sexual partners in the last year (not collapsed), $\chi^2 (5, N = 753) = 10.334$, $p = .066$; however, STD testing was weakly associated with number of female partners in the past year (not collapsed). Men with exactly

three female partners in the last year, 54% ($n = 39$), were more likely to had tested for an STD in the last year than men with less or more than three female sexual partners, $\chi^2 (5, N = 753) = 33.789$, $p < .001$, $V = .212$. This bivariate association was the strongest among all the variables used in this study to measure sexual risk behaviors.

The number of female sexual partners in the last year was collapsed into a binomial variable for bivariate analysis. Similar to men with two or more female sexual partners in the last three months, HIV and STD testing varied according the number of female sexual partners in the last year. Men who reported two or more female sexual partners in the last year, 36% ($n = 84$), were more likely to report they had an HIV test in the last year than men with less than two female sexual partners, $\chi^2 (1, N = 752) = 4.063$, $p = .044$, $\Phi = -.074$. The association with HIV testing was weak. A stronger association, but still weak, occurred between number of female sexual partners in the last year (collapsed) and STD testing. Men with two or more female partners, 43% ($n = 101$), were more likely to report they had an STD test in the last year, $\chi^2 (1, N = 751) = 22.284$, $p < .001$, $\Phi = -.172$.

The number of female sexual partners in the respondents' lifetime was also examined. Men who reported three or four female sexual partners in their lifetime accounted for 16% ($n = 121$) of the sample. Men with seven or eight partners represented a similar proportion, 16% ($n = 123$). Nearly 18% ($n = 132$) of the men reported 21 or more female sexual partners in their lifetime. The number of female sexual partners in a lifetime was weakly associated with HIV testing. Men who reported 21 - 30 female sexual partners in their lifetime were more likely to report they had an HIV test in the past year, $\chi^2 (8, N = 752) = 17.334$, $p = .027$, $V = .152$, than men with less or more lifetime female sexual partners. STD testing did not vary for the number of female sexual partners in a lifetime, $\chi^2 (8, N = 753) = 7.123$, $p = .523$.

Most men in the sample, 73% ($n = 547$), reported they had sex with a female who was not having sex with others in the last year. Thus, most men had sex with a female who they believe was monogamous in the last year. Nineteen percent ($n = 145$) of the men reported they were having sex with a female who was having sex with others. Over 6% of respondents did not answer this item on the survey. HIV testing did not vary according whether men had sex with a female who was having sex with others, $\chi^2(1, N = 692) = .180, p = .672$. However, men who had sex with a female who was having sex with others, 40% ($n = 58$), were more likely to report they had tested for an STD in the last year, $\chi^2(1, N = 693) = 6.781, p = .009, \Phi = .099$, than men who having sex with a female not having sex with others. The association between sex with a female who was having sex with others and STD testing was weak.

Condom use at last vaginal intercourse, condom use at last receipt of fellatio from a female, and condom use at last anal sex with a female were used to examine whether or not respondents' had engaged in unprotected sex with a female in the last year. Forty percent ($n = 304$) of men reported a condom was used the last time they had vaginal intercourse with a female. Nearly 56% ($n = 419$) reported they did not use a condom the last time they had vaginal intercourse with a female. Four percent of the sample did not provide an answer to this inquiry. HIV testing did not vary according to condom use at last vaginal intercourse, $\chi^2(1, N = 723) = .037, p = .847$. STD testing was weakly associated with condom use at last vaginal intercourse. Men who used a condom at last vaginal sex, 40% ($n = 120$), were more likely to report they had tested for an STD in the last year than men who did not use a condom at last vaginal sex, $\chi^2(1, N = 723) = 18.955, p < .001, \Phi = .162$.

Condom use during the receipt of oral sex from a female was not as common. Seventy-seven percent ($n = 580$) of the sample reported a condom was not used when they last received

oral sex from a female. Less than 8% ($n = 58$) of the sample reported a condom was used when they last received oral sex from a female. Slightly over 15% of the sample did not answer this survey item. Condom use at last receipt of oral sex was not associated with having had an HIV test in the last year, $\chi^2 (1, N = 637) = .008, p = .929$. It was also not associated with having had an STD test in the last year, $\chi^2 (1, N = 638) = .902, p = .342$. Condom use while giving oral sex to female was not included as an item in the 2002 National Survey of Family Growth.

The majority of men, 65% ($n = 486$), were not required to answer the survey item regarding condom use at last anal sex with a female because this proportion reported they never had anal sex with a female. Respondents accounting for 15% ($n = 116$) of the sample reported a condom was used when they last had anal sex with a female. Twenty percent ($n = 151$) of the men did not use a condom at last anal sex with a female. HIV testing, $\chi^2 (1, N = 267) = 1.565, p = .211$, and STD testing, $\chi^2 (1, N = 268) = .766, p = .382$, did not vary according to whether or not a condom was use at last anal sex with a female.

The nature of the relationship with the last sexual partner at last sex ever was also considered as a sexual risk. The majority of men also reported being in a relationship with their last sexual partner the last time they had sexual intercourse. Nearly 83% ($n = 620$) of men in the sample were in a relationship the last time they had sex. Nearly 45% ($n = 337$) reported they were living together in a sexual relationship with their partner, going out or going steady with their sexual partner, or engaged. Men who reported they were married to their last sexual partner the last time they had sex accounted for 38% ($n = 283$) of the sample. Nearly 18% ($n = 184$) of the sample was not in a relationship. The men not in a relationship reported they were just friends, had just met, or were in something else with their last sexual partner the last time they had sex. HIV and STD testing varied according to relationship status with last sexual partner at

last sex. Men who reported they were ‘in a relationship’ with their last sexual partner, 36% ($n = 120$), were more likely to have had an HIV test in the last year than the men with other relationship statuses, $\chi^2(2, N = 752) = 8.979, p = .011, V = .109$. The association between relationship status with last sexual partner at last sex was weak. On the other hand, a weak, but stronger association occurred between relationship status with last sexual partner at last sex and STD testing. Men who were ‘not in a relationship’ with their last sexual partner at last sex, 39% ($n = 52$), were more likely to have tested for an STD in the last year than men with other relationship statuses, $\chi^2(2, N = 751) = 24.367, p < .001, V = .180$.

Personal or partner substance abuse including engaging in sexual intercourse with a female intravenous drug user (IDU) in the last year and engaging in sexual intercourse with a female while high on alcohol or drugs in the last year were also considered as sexual risk behaviors. Three percent ($n = 25$) of men in the sample reported they had sex with a female intravenous drug user in the last year. The majority of the men, 90% ($n = 679$), reported they did not have sex with a female intravenous drug user. Over 6% of the sample did not provide a response to the survey item regarding sex with a female intravenous drug user. HIV testing did not vary according to whether or not the men had sex with a female IDU in the last year, $\chi^2(1, N = 704) = .892, p = .345$. Yet, men who reported they had sex with a female IDU in the last year, 68% ($n = 17$), were more likely to report they had tested for an STD in the last year, $\chi^2(1, N = 704) = 16.973, p < .001, \Phi = .155$. The association between sex with a female IDU and STD testing was weak.

Over one-third of the sample, 35% ($n = 266$), reported they were high on alcohol or drugs when they had sex with a female in the last year. Over 6% of the men did not provide an answer to this question. HIV testing did not vary according to whether or not the men were ever high

during sexual intercourse, $\chi^2(1, N = 701) = .008, p = .931$. STD testing, however, was weakly associated with being high during sex in the last year. Men who reported they had been high during sex, 35% ($n = 93$), were more likely to had tested for an STD in the last year, $\chi^2(1, N = 700) = 3.844, p = .050, \Phi = .074$. Other sexual risk behaviors, such as substance abuse outside of sexual activity and same-sex sexual partners were not analyzed due to either low frequencies among the sample or the possibility of engaging in the behavior without engaging in the sexual activity.

Binomial multivariate models for HIV & STD testing.

Binomial multivariate logistic regression analysis was administered to determine what variables independently predicted whether the men had an HIV and STD test in the last year. The various independent variables of demographics, social determinants of health, health care access, and sexual risk behaviors were closely examined and reference categories were chosen for regression analysis. Reference categories were selected based on an assumption of being least likely to have had HIV and STD testing as selected by the author and reference to literature. Several variables were removed, recoded, or combined for regression analysis as discussed in Chapter 3. As a result, 36 cases were removed from the regression models. Seven-hundred and seventeen men ($n = 717$), instead of 753, were analyzed for the regression models. Two models were performed for both HIV and STD testing. The initial models included 28 independent variables. The second models only included significant variables from each of the first models.

Model 1 for HIV testing.

All 28 variables predicted whether the men had tested for HIV in the last year, $\chi^2(65, N = 717) = 222.129, p < .001$. The initial model for the prediction of HIV testing among the sample had a 78% accuracy rate. Thus, the model resulted in a correct prediction approximately 78% of

the time. The variables of age, marital status, household size, income, type of health insurance, routine physical exam, and number of partners in the last three months were significant coefficients. Table 10 lists all corresponding odds ratios for the HIV testing models. Age and marital status were the demographic factors that independently predicted HIV testing in the first HIV model. Older men were less likely to have tested for HIV in the last year. Men 25 - 34 years old were 3 times (OR = 3.206) as likely as men 35 - 44 years old to have had HIV testing in the last year. Married men were less likely to have tested for HIV in the last year. Widowed and divorced men were nearly 5 times (OR = 4.652) as likely as married men to have tested for HIV in the last year.

Table 10

Binomial Multivariate Logistic Regression Model of Variables Associated with HIV testing – In Last Yr. (*N* = 717)

| Variable | Model 1 | | Model 2 | |
|----------------------|------------------------|---------|-----------------------|---------|
| | OR (95% CI) | P Value | OR (95% CI) | P Value |
| Age | | | | |
| 18 – 24 years | 1.813 (0.914 - 3.597) | .089 | | |
| 25 – 34 years | 3.206 (1.871 - 5.492) | <.001* | 2.044 (1.435 - 2.909) | <.001 |
| 35 – 44 years | 1 (Reference) | | | |
| Marital status | | | | |
| Married | 1 (Reference) | | | |
| Widowed/ Divorced | 4.652 (0.916 - 23.623) | .064* | 2.122 (1.132 - 3.976) | .019 |
| Separated | 2.642 (0.513 - 13.600) | .245 | | |
| Never married | 1.301 (0.259 - 6.526) | .749 | | |
| Family members in HH | | | | |
| None | 3.436 (1.175 - 10.047) | .024* | 2.164 (1.411 - 3.317) | <.001 |
| One | 1.779 (0.607 - 5.214) | .294 | | |
| Two | 1.848 (0.663 - 5.149) | .240 | | |
| Three | 1.038 (0.362 - 2.981) | .945 | | |
| Four | 1.362 (0.426 - 4.357) | .603 | | |
| Five or more | 1 (Reference) | | | |

Note. Abbreviations: Yr. = year; CI, confidence interval; OR, odds ratio; HH, house hold; FPL, federal poverty level; HI, health insurance. * Significant categories in Model 1, compared to all other categories of variable in Model 2

Table 10

Binomial Multivariate Logistic Regression Model of Variables Associated with HIV testing – In Last Yr. ($N = 717$)

| Variable | Model 1 | | Model 2 | |
|---|------------------------|---------|-----------------------|---------|
| | OR (95% CI) | P Value | OR (95% CI) | P Value |
| Income as %age of FPL | | | | |
| 0 – 99 % | 1 (Reference) | | | |
| 100 – 199% | 1.645 (0.790 - 3.425) | .184 | | |
| 200 – 299% | 2.807 (1.257 - 6.267) | .012* | | |
| 300 – 399% | 4.375 (1.917 - 9.985) | <.001* | | |
| 400 – 499% | 2.475 (0.999 - 6.136) | .050* | 1.635 (0.991 - 2.699) | .054 |
| 500 – 599% | 1.721 (0.688 - 4.301) | .246 | | |
| HI coverage | | | | |
| Uninsured | 1 (Reference) | | | |
| Private coverage | 0.564 (0.248 - 1.283) | .172* | 0.685 (0.481 - 0.977) | .037 |
| Medicaid | 1.708 (0.604 - 4.829) | .312 | | |
| Other Public | 1.232 (0.473 - 3.207) | .669 | | |
| Routine P.E – In last year | | | | |
| Yes | 7.059 (4.328 - 11.515) | <.001* | 6.381 (4.231 - 9.621) | <.001 |
| No | 1 (Reference) | | | |
| Number of female sex partners – Last 3 months | | | | |
| None | 1 (Reference) | | | |
| 1 partner | 2.843 (1.202 - 6.725) | .017 | | |
| 2 partners | 1.544 (0.412 - 5.780) | .519 | | |
| 3 or more partners | | | | |

Note. Abbreviations: Yr. = year; CI, confidence interval; OR, odds ratio; HH, house hold; FPL, federal poverty level; HI, health insurance. * Significant categories in Model 1, compared to all other categories of variable in Model 2

Household size and income emerged as the independent predictors of HIV testing among the variables categorized as social determinants of health in the first HIV model. Men who lived alone were more likely to report they had HIV testing in the last year. They were over 3 times (OR = 3.436) as likely to have tested for HIV in the last year as men with one or more family members in their household. Men with high levels of poverty were less likely to have tested to HIV in the last year. Men who reported income levels 200 – 299% of the FPL were nearly 3 times (OR = 2.807) likely as men who had income levels 0 – 99% of the FPL to have had an HIV test in the last year. Men who had income levels 300 – 399% of the FPL were over 4 times

(4.375) as likely to have tested for HIV in the last year as men with incomes 0 - 99% of the FPL. In addition, men who reported income levels 400 – 499% of the FPL were nearly 2.5 times (OR = 2.475) as likely as men with income levels 0 – 99% of the FPL to have had an HIV test in the last year.

Two variables related to health care access, and only one variable categorized as a sexual risk behavior were significant in regression analysis. The type of health insurance coverage and whether men had received a routine physical exam were the health care access variables that independently predicted HIV testing in the first HIV model. Men with private health insurance were less likely to have had HIV testing. Uninsured men were nearly twice (OR = .564) as likely as men with private health insurance coverage to have tested for HIV in the last year. On the other hand, men who had received a routine physical exam in the last year were more likely to report they had HIV testing in the last year. They were 7 times (OR = 7.059) as likely as men who reported they had not had a physical exam to have tested for HIV. The number of female sexual partners in the last three months was the only sexual risk behavior variable that independently predicted HIV testing. Men with one female sexual partner in the past 3 months were more likely to have reported HIV testing in the last year. Men with one partner in the last three months were nearly 3 times (OR = 2.843) as likely as men without any partners to have tested for HIV.

Model 2 for HIV testing.

In the second model for HIV testing, nine dummy variables predicted whether or not men had tested for HIV. Although the accuracy rate decreased, it was still significant, $\chi^2(9, N = 717) = 138.451, p < .001$. The model had a prediction rate of 72%. Age and marital status remained as the demographic factors that were independent predictors of HIV testing in the second model.

However, the odds ratio decreased. Men 25 - 34 years old were only twice (OR = 2.044) as likely as men less than 25 years old and men older than 34 years old to have reported they were tested for HIV in the last year, instead of over 3 times as likely. The association between individuals 25 – 34 years of age and HIV testing is validated by the findings of previous scholarship (Inungu, 2002; Grinstead et al., 1997; Rountree et al., 2009). Contrary to Inungu (2002), widowed and divorced men were more likely to test for HIV. Men who were widowed and divorced were only twice (OR = 2.122) as likely as those who were married, separated, or never married to have tested for HIV in the last year, instead of nearly 5 times as likely.

Household size and income, the significant social determinants of health, also remained as independent predictors in the second model for HIV testing. Similar to age and marital status, the odds ratio decreased. Men who lived alone were still more likely to report they had HIV testing in the last year. Men who lived alone were over twice (OR = 2.164) as likely to have had HIV testing in the last year as men with one or more family members in their household, instead of over 3 times as likely. Previous literature found individuals with lower income were more likely to report HIV testing (Anderson et al., 2005; Fernandez et al., 2002; Rountree et al., 2009). In this study, higher income levels were associated with an increased likelihood to report HIV testing. For income level, only men with income levels 400 - 499% of the FPL remained as an independent predictor of HIV testing in the last year. Men with income levels between 400 – 499% of the FPL were over 1.5 times (OR = 1.635) as likely as men with less than 400% and higher than 499% of the FPL to have reported they tested for HIV, instead of nearly 2.5 times as likely.

Both health care access variables significant in the first HIV model, insurance type and whether or not the respondent had a routine physical exam in the last year, remained significant

in the second model. Again, the odds ratios slightly decreased for health care access. Men with private insurance were nearly 1.5 times (OR = .685) less likely than men who were uninsured or men with public insurance to have tested for HIV in the last year. Men who reported they had a routine physical exam in the last year were over 6 times (OR = 6.381) as likely as men who had not had a physical exam to have an HIV test. The sexual risk behavior related to the number of female sexual partners in the last three months was not significant in the second model. Similar to the results of Bond et al. (2005), sexual risk behaviors were not associated with HIV testing in multivariate analysis. Thus, the binomial multivariate logistic regression analysis for HIV testing revealed that very few variables predict HIV testing in the last year for heterosexual African American men, 18 - 44 years old. Men who were (a) 25 – 34 years old, (b) widowed or divorced, (c) lived alone, (d) had moderately high incomes, and (e) received an annual physical exam were most likely to report HIV testing in the last year..

Model 1 for STD testing.

All 28 variables also predicted whether the men had tested for STD in the last year, χ^2 (65, $N = 753$) = 211.885, $p < .001$. The first model for predicting STD testing among the sample resulted in a correct prediction 78% of the time. The accuracy rate was equal to the accuracy rate of the initial HIV testing model. The significant coefficients for STD testing in the last year were age, employment status, place of residence, routine physical exam, condom use at last vaginal sex, condom use at last anal sex, and sex with a female intravenous drug user. Table 12 lists the odds ratios for the STD testing models.

Table 11

Binomial Multivariate Logistic Regression Model of Variables Associated with STD Testing – In Last Yr. (N = 717)

| Variable | Model 1 | | Model 2 | |
|------------------------------------|------------------------|---------|-----------------------|---------|
| | OR (95% CI) | P Value | OR (95% CI) | P Value |
| Age | | | | |
| 18 – 24 years | 1.595 (0.826 - 3.080) | .164 | | |
| 25 – 34 years | 1.930 (1.132 - 3.291) | .016 | | |
| 35 – 44 years | 1 (Reference) | | | |
| Currently employed | | | | |
| Yes | 0.432 (0.249 - 0.748) | .003 | 0.473 (0.312 - 0.717) | <.001 |
| No | 1 (Reference) | | | |
| Residence | | | | |
| MSA, central city | 1.264 (0.577 - 2.773) | .558 | | |
| MSA, other | 2.374 (1.102 - 5.116) | .027 | 1.900 (1.347 - 2.680) | <.001 |
| Not MSA | 1 (Reference) | | | |
| Routine P.E – In last year | | | | |
| Yes | 4.433 (2.798 - 7.023) | <.001* | 4.298 (2.937 - 6.291) | <.001 |
| No | 1 (Reference) | | | |
| Condom @ last vaginal sex | | | | |
| Yes | 0.396 (0.103 - 1.515) | .176 | | |
| No | 0.223 (0.057 - 0.875) | .031 | 0.399 (0.278 - 0.575) | <.001 |
| Never had vaginal sex | 1 (Reference) | | | |
| Condom @ last anal sex w/ F | | | | |
| Yes | 1.245 (0.675 - 2.296) | .482 | | |
| No | 2.648 (1.536 - 4.563) | .000 | 2.165 (1.405 - 3.337) | <.001 |
| Never had anal sex w/ F | 1 (Reference) | | | |
| Sex w/ FIDU – In last year | | | | |
| Yes | 3.875 (1.211 - 12.391) | .022 | 2.739 (1.007 - 7.451) | .048 |
| No | 1 (Reference) | | | |

Note. Abbreviations: Yr. = year; CI, confidence interval; OR, odds ratio; HH, house hold; FPL, federal poverty level; HI, health insurance; F = female; FIDU = female intravenous drug user. * Significant categories in Model 1, compared to all other categories of variable in Model 2

Within the categories of demographic factors and health care access, only one variable was an independent predictor of STD testing in the last year. Two variables among those categorized as social determinants of health were independent predictors of STD testing, and three sexual risk behavior variables were significant. Age was the only demographic factor that predicted STD testing in the first STD model. Men who were 25 - 34 years old were more likely

to report they had STD testing. They were nearly twice (OR = 1.930) as likely as men 35 - 44 years old to have tested for an STD in the last year prior to the survey interview.

Employment status and place of residence were the significant social determinants of health in the first regression model for STD testing. Men who reported they were currently employed at the time of the interview were less likely to have tested for an STD in the last year. They were over 2 times (OR = .432) less likely to have reported STD testing in the last year. Men who lived in a metropolitan area, but did not live in the central city, were nearly 2.5 times (OR = 2.374) as likely as men who did not live in a metropolitan area to report they had tested for an STD in the last year.

Among the variables related to health care access, whether or not the respondent had a routine physical exam in the last year was the only significant independent predictor of STD testing in the last year for the first STD model. Similar to the HIV testing model, men who had received a routine physical exam in the last year also had an increased likelihood of reporting they had tested for an STD in the last year. They were over 4 times (OR = 4.433) as likely as men who had not had a routine physical exam to have reported they had an STD test.

Three sexual risk behaviors, including condom use at last vaginal sex, condom use at last anal sex, and sex with a female intravenous drug user, were significant independent predictors of STD testing in the last year in the first STD model. Men who had vaginal sex without a condom in the last year were less likely to had tested for an STD. Men who reported they had vaginal sex in the last year without a condom were nearly 4.5 times (OR = .223) less likely to had tested for an STD in the last year than men who had not had vaginal sex in the last year. On the other hand, men who had anal sex with a female without a condom were more likely to have had an STD test. They were over 2.5 times (OR = 2.648) as likely as men who had never had anal sex with a

female to report they tested for an STD in the last year. Men who reported they had vaginal sex with a female intravenous drug user in the last year were also more likely to have tested for an STD. They were nearly 4 times (OR = 3.875) as likely as men who had not had vaginal sex in the last year to report they had tested for STDs in the last year.

Model 2 for STD testing.

The second model for STD testing was also significant, $\chi^2 (7, N = 753) = 129.019, p < .001$; although the accuracy rate slightly decreased. Seven variables predicted whether or not men had tested for an STD in the last year. The second model's prediction rate was 75%. Except for age, all other significant variables in the initial STD model (employment status, place of residence, routine physical exam, condom use at last vaginal sex, condom use at last anal sex, and sex with a female intravenous drug user) remained significant in the second model for STD testing. Men who reported they were currently employed at the time of the interview were still over 2 times (OR = .473) less likely to have reported STD testing in the last year. The odds ratio for place of residence only decreased slightly. Men who lived in a metropolitan area, but did not live in the central city, were nearly twice (OR = 1.900) as likely as men who did not live in a metropolitan area or lived in the central city of a metropolitan area to report they had tested for an STD in the last year, instead of over twice as likely to had an STD test. Yet, it is difficult to determine whether men who reside in a metropolitan area have an improved status over those who did not live in a metropolitan area or who lived in the central city of a metropolitan area. Men who reported they had a routine physical exam in the last year were still over 4 times (OR = 4.298) as likely as men who had not had a routine physical exam to have reported they had an STD test.

The three sexual risk behaviors, including condom use at last vaginal sex, condom use at last anal sex, and sex with a female intravenous drug user, also remained as significant independent predictors of STD testing in the last year for the second STD model. The odds ratio for condom use at last vaginal sex decreased in the second regression model for STD testing. Men who reported they had vaginal sex in the last year without a condom were over 2.5 times (OR = .399) less likely to have tested for an STD in the last year than men who had not had vaginal sex in the last year or had vaginal sex with a condom. Men who had anal sex with a female without a condom were still over 2 times (OR = 2.165) as likely as men who had anal sex with a condom or who never had anal sex with a female to report they tested for an STD in the last year. Men who reported they had vaginal sex with a female intravenous drug user in the last year were nearly 3 times (OR = 2.739) as likely as men who had not had vaginal sex with a female intravenous drug user or men who had not had vaginal sex in the last year to report they had an STD test, instead of nearly 4 times as likely. The binomial multivariate logistic regression for STD testing revealed that demographic factors, improved social determinants of health, and responsible sexual behaviors did not predict STD testing in the last year for heterosexual African American men, 18 - 44 years old. Men who (a) were unemployed, (b) lived in a metropolitan area (but not the central city), (c) received an annual physical exam, (d) had unprotected anal sex with a female, (e) had sex with an female intravenous drug user were more likely to report STD testing in the last year.

Overall, the quantitative arm of this study revealed that regular use of HIV and STD testing services among heterosexual African American men, 18 - 44 years old is somewhat low. Various reasons could explain their infrequent testing for HIV and other STDs. Constructs of the Health Belief Model (Janz et al., 2005) have been found to influence HIV and STD testing use

and routine HIV testing may increase their use of HIV and STD testing. Very few studies have examined views about routine HIV testing since the recommendations were released. Existing research on views of routine HIV testing examined the beliefs of African populations or targeted the opinions of pregnant women (Cockroft, Andersson, Milne, Mokoena, & Masisi, 2007; Podhurst, Storm, & Dolgonos, 2009). Studies specifically targeting the opinions of heterosexual African American men were not found. As a result, the second component of this study was designed to determine the views of routine HIV testing and suggestions of how to increase HIV and STD testing among heterosexual African American men, 18 – 44 years old living in Champaign, Illinois. It was guided by the conceptual framework of the Health Belief Model (Janz et al.).

Study 2 - Qualitative Results

Sample characteristics of men in Champaign, IL.

Guided by the conceptual framework of the Health Belief Model, the qualitative component of the study of the study addressed the third and fourth research questions. The qualitative results are presented in three main sections: (a) demographics, including descriptive statistics on social determinants of health, health care access, and sexual health care use; (b) the HBM constructs (perceived threat, perceived benefits, perceived barriers, and cues to action); and (c) suggestions on how to increase regular HIV and STD testing use among heterosexual African American men. Each section provides frequencies and details of open-ended responses of the inquiries related to each category. The willingness to accept routine HIV testing among the sample is highlighted as a potential cue to use HIV and STD testing services. Research questions three and four are as follows:

Question 3: What are the views of heterosexual African American men on routine HIV testing as recommended by the CDC?

Question 4: What do heterosexual African American men suggests will increase the use of HIV and STD testing services among their peers?

Demographics.

Age, marital status, and a history of sexual intercourse with a female were the characteristics categorized as demographic variables in the sample for the qualitative component of the study as shown in Table 12. The majority, 57% ($n = 17$), of the men were between 35 - 44 years old. Of the remaining participants, 37% ($n = 11$) were 25 - 34 years old and 7% ($n = 2$) were 18 - 24 years old. The majority of the men reported a formal marital status of never married. Half of the participants, 50%, reported a marital status of never married. Approximately 27% of the men were married. Divorced men accounted for 20% of the sample. The variable regarding a history of sexual intercourse with a female was a requirement to participate in the study and used to screen potential participants. Thus, 100% ($n = 30$) of the sample reported a history of sexual intercourse with a female.

Table 12

Heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected demographic characteristics, from a convenience sample in Champaign, Illinois ($N = 30$)

| Variable | <i>n</i> | % |
|---------------|----------|------|
| Age | | |
| 18 – 24 years | 2 | 6.7 |
| 25 – 34 years | 11 | 36.6 |
| 35 – 44 years | 17 | 56.7 |

Table 12 (cont.)

Heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected demographic characteristics, from a convenience sample in Champaign, Illinois ($N = 30$)

| | | |
|-------------------------------------|----|-------|
| Marital status | | |
| Married | 8 | 26.7 |
| Widowed | 0 | 0.0 |
| Divorced | 6 | 20.0 |
| Separated | 1 | 3.3 |
| Never married | 15 | 50.0 |
| Sexual intercourse w/ female - Ever | | |
| Yes | 30 | 100.0 |

Social determinants of health.

Characteristics related to education, employment, income, incarceration, and place of residence were categorized as social determinants. Specifically, *highest level of education, current employment status, current enrollment as a student, income level, history of incarceration* (ever and in the last year), and *living in Champaign, Illinois* were items selected to examine the participants' social determinants of health. Table 13 highlights the frequencies. The majority of African American men examined in this sample, 93% ($n = 28$), had completed at least a high school diploma or G.E.D. Men who reported having some college, but no degree and a bachelor's degree or higher represented equal proportions of the sample at 37% ($n = 11$). These men may have been graduate students who have completed their undergraduate education, but were in graduate school at the time of the interview. The unemployment rate was high among the men in this sample. Nearly three-fourths of men in the sample, 73% ($n = 22$), were employed. Thus, the unemployment rate among the sample was 27% ($n = 8$). Income levels were low among the sample. The majority of the men, 60% ($n = 18$), reported an income level less than \$20,000. Twenty percent ($n = 6$) accounted for income levels between \$20,000 and \$39,999. An equal proportion, 10% ($n = 3$), reported income levels between \$40,000 and \$59,999, and greater or equal to \$60,000. A history of incarceration was common among the sample. Most of the

sample, 63% ($n = 19$), had spent time in jail, prison, or juvenile detention in their lifetime. One-fifth of the men, 20% ($n = 6$) were incarcerated in the last year prior to the interview. As a study requirement, all participants resided in Urbana-Champaign, Illinois.

Table 13

Heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected social determinants of health, from a convenience sample in Champaign, Illinois (N = 30)

| Social Determinants of Health | <i>n</i> | % |
|---|----------|-------|
| Education – highest level achieved | | |
| 12 th grade or less, no graduation | 2 | 6.7 |
| High school graduate | 5 | 16.6 |
| Some college, no degree | 11 | 36.7 |
| Associate degree | 1 | 3.3 |
| Bachelor’s degree or higher | 11 | 36.7 |
| Current employment | 22 | 73.3 |
| Current student | 9 | 30.0 |
| Income | | |
| \$19,999 and less | 18 | 60.0 |
| \$20 – 39, 999 | 6 | 20.0 |
| \$40 – 59,999 | 3 | 10.0 |
| \$60K and more | 3 | 10.0 |
| Jail, prison, juvenile detention - Ever | 19 | 63.3 |
| Jail – In last year | 6 | 20.0 |
| Residence – Urbana-Champaign | 30 | 100.0 |

Health care access and health status.

The lack and type of health coverage, a routine physical exam, and general health status were the variables of health care access examined among the sample. As shown in Table 14, a substantial proportion of the men lacked health coverage in the last year. Nearly half ($n = 14$) of the men reported they lacked health coverage at some point in the last year; however, the majority of the sample reported having a source of health coverage at the time of the interview. Fifty-three percent ($n = 16$) of the sample reported private health insurance as their source of health coverage at the time of the interview, and reported having a primary care physician that

serves as their primary health care provider. The remaining proportion of men did not have a primary care physician and sought health care from a variety of sources. Twenty percent ($n = 6$) of the sample was covered by a public insurance plan. Twenty-seven percent ($n = 8$) of the men were uninsured. Among those without private health coverage, local hospital emergency rooms (20%), public/community health clinics (20%), and the local health department (7%) functioned as their primary source of health care. However, routine physical exams were common among the sample. Eighty percent of the sample received a physical exam in the last year.

Table 14

Heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected characteristics of health care access, from a convenience sample in Champaign, Illinois ($N = 30$)

| Health Care Access | <i>n</i> | % |
|--|----------|------|
| Lack of health coverage – In last year | 14 | 47.0 |
| Health insurance coverage status | | |
| Uninsured | 8 | 27.0 |
| Private coverage, only | 16 | 53.0 |
| Medicaid/ Public/ Gov't/ State/ Military | 6 | 20.0 |
| Routine Exam – In last year | 24 | 80.0 |
| General Health Status | | |
| Excellent | 5 | 16.7 |
| Very Good | 21 | 70.0 |
| Good | 4 | 13.3 |
| Fair | 0 | 0.0 |
| Poor | 0 | 0.0 |

Participants were surveyed on their perception of the state of their general health status. Based on an item which asked respondents to rate their health status on a scale of one to ten, the rating scale was recoded to reflect the categories used in the 2002 National Survey of Family Growth to measure general health status. A rating of ten was categorized as an ‘excellent’ health status. A rating of eight or nine was categorized as a ‘very good’ health status. A rating of five to seven was categorized as a ‘good’ health status. Ratings of four or less were classified as a ‘poor’

health status. The participants believed themselves to be in good or better health. Over 16% ($n = 5$) reported a health status ranking of ten, or 'excellent'. Seventy percent ($n = 21$) of the men reported a ranking of eight or nine. Thus, the majority of the sample reported a general health status of ranking of 'very good'. The remaining proportion of the sample, 13% ($n = 4$), reported a ranking of six or seven, or 'good'. None of the men reported a general health status of fair or poor.

A number of factors were highlighted as determinants of general health status. An ability to engage in exercise or physical activities and not having an illness were the most common factors used to determine health status. Diet, good results after a physical exam, and ability to participate in daily routine activities without pain were also cited as factors to determine health status. However, sexual health related topics as factors in the determination of health status were only directly stated by a few men. The men cited the absence of STDs and frequency of condom use as factors used to determine their health status.

Sexual health care use.

Table 15 highlights the statistics related to sexual health care use. Lifetime HIV and STD testing was overwhelmingly common among the sample. The entire sample, 100% ($n = 30$), reported they had an HIV test in their lifetime. Similar to HIV testing, high proportions of the sample had tested for other STDs, such as gonorrhea, chlamydia, syphilis, and/or genital herpes. Ninety percent ($n = 27$) had ever tested for other STDs. Three men, 10% of the sample, had never tested for other STDs in their lifetime. Consistent with the occurrence of more HIV testing compared to STD testing among the sample was regular screening patterns for HIV and other STDs. Fifty-seven percent ($n = 17$) were tested for HIV in the last year prior to the interview. However, only 37% ($n = 11$) of the men reported they had tested for other STDs in the last year.

Table 15

Heterosexual, African American men aged 18 - 44 who ever had sexual intercourse, by selected characteristics of sexual health care use, 2002 National Survey of Family Growth ($N = 30$)

| Sexual Health Care | <i>n</i> | % |
|----------------------------|----------|-------|
| HIV testing – Ever | 30 | 100.0 |
| HIV testing – In last year | 17 | 57.0 |
| STD testing – Ever | 27 | 90.0 |
| STD testing – In last year | 11 | 37.0 |

Constructs of the HBM.

Threat of HIV and other STDs.

Mixed results emerged in the determination of whether or not participants perceived HIV and other STDs as a threat to their health. A variety of definitions for sexual health were provided by the sample of men from Champaign, Illinois. Participants highlighted condom use, sexual functioning (ability to get an erection and engage in vaginal intercourse), and the absence of STDs as components of sexual health. Partner selection and engaging in healthy sexual relationships were also mentioned as components of sexual health by a few men in the sample. One theme or another, or a combination of themes, was not overwhelmingly expressed by any of the participants.

The interview participants were asked a direct inquiry about whether or not sexual health was a factor used to determine their health status. The men stated that sexual health was a factor. A concern of STDs and sexual functioning were the primary reasons the men provided for including sexual health as a factor in the determination of their health status. One participant shared the following in his response to the question about sexual health as a part of his health status and expressed the sentiment of STD infection as a major concern. He made the following statement, "...it's a big part because... your health is something, you got an STD or anything going wrong it can lead to health problem, and it's something that you should get fixed..."

Another participant in the study included sexual functioning as a part of his reasoning for including sexual health as a factor in determining his health status. He stated, "...I mean if you're not working completely all the way with ...[your] sexuality...your health could be in jeopardy, if things are not working properly".

The interview participants also reported that sexual health was not factor in which they used to determine their health status. Multiple reasons were provided to explain why they did not include sexual health in determining their health status. Lack of problems with sexual functioning, sexual health not being a concern, and the ability to bear children were the most common themes expressed by the participants. One participant mentioned the absence of STDs as the reason it was not a factor in the determination of his health status. Another participant expressed that he felt sex was personal and he only measured his health status by an ability or inability to participate in exercise or physical activities. Several men did not provide a reason for not including sexual health as a factor in determining their health status. The sample believed sexual health was important. The men stressed a concern of STD infection as the reason for the importance of sexual health. The ability to bear children, sexual functioning and performance, and the perception of sex as a major component of a relationship were also cited as reasons sexual health was important.

Responses to other inquiries about perceived threat revealed that both HIV and STDs, in general, were a concern among the sample. A perception that HIV/AIDS was more serious than other STDs emerged consistently throughout the interview questions related to perceived threat. Participants clearly had a higher level of concern for HIV/AIDS. The participants viewed HIV separately from other STDs, took precautions to protect themselves for HIV and STD infection, and viewed HIV and other STDs as significant health problems in the African American

community. More participants were fearful of HIV than other STDs. Specifically, one participant stated the following in his reasoning for viewing HIV separately from other STDs, and echoed the feelings of the other participants with similar responses.

Ok, for two reasons. One...I view it separately cause of the impact, or at least [how] the public...[portrays the] impact.... I'm not sure...but it's...[the] attention that's given [by] the media. And it kind of has an unfair negative connotation associated with it say for example, if you have HIV, someone will... assume that there is a behavioral [kind of] thing associated with it. Meaning like, you did something to get it.... me personally, I don't...think of it that way, but I view it differently [be]cause I perceive that is how it is perceived.

A fear of dying as a result of HIV infection was directly expressed by approximately several men in the sample as an explanation of why they viewed HIV separately from other STDs and why they feared HIV infection. Many participants expressed a similar opinion of HIV as a “killer”. As stated by one participant, “I mean, HIV eventually [will] kill you. It...[will develop into] AIDS and eventually kill you...” The men in the study reported they used various precautions to protect themselves from HIV and STD infection. Condom use was the predominant method of protection against HIV and STD infection reported by the men in this study. The men also noted being selective of sexual partners, regular testing, and practicing monogamy when engaging in a sexual relationship as methods used to protect against HIV and STD infection.

On the other hand, responses to other inquiries related to perceived threat demonstrate that the behaviors of participants contradict the level of concern they conveyed for HIV and other STDs. Participants were asked about whether or not they inquired about the HIV and STD status of new partners prior to first sex. The men reported they had not inquired about the status of infection of new partners prior to first sex; however inquiry about the HIV status of new partners was more common than inquiry about STD status. The most common reason for not inquiring about the status of infection was that they just failed to ask or trusted their partner did

not have an infection and the partner would voluntarily offer such information if infected. For the men who reported they inquired about the HIV and STD status of new partners prior to first sex, they still did not verify the status of infection reported by the partner. They also expressed a trust in their partners' statements about not being infected.

The sample also viewed HIV and other STDs as significant health problems in the African American community, but specific knowledge of the severity of the epidemics among African Americans was relatively unknown. Most participants provided a general response that infection rates were "high" and the epidemic was "bad" when asked about their knowledge of infection within the African American community. Other participants quoted incorrect statistics or misinformation, and many responded that they simply were unaware and could not identify verbatim any specifics about the severity of the epidemics among African Americans. Most of the men admitted knowing less about other STDs than HIV, but they were unaware about the impact of both epidemics with the African American population. Thus, the belief of HIV and STD infection as a threat to their health was generally not supported by the behaviors and knowledge of the men in the sample.

Benefits of HIV & STD testing.

HIV and STD testing as a method to maintain sexual health emerged as the primary expressed benefit of HIV and STD testing. When asked if regular HIV and STD testing was a part of maintaining their sexual health, the men reported regular HIV testing was a part of maintaining their sexual health than regular STD testing. The men reported at least annual or more frequent testing when the direct inquiry about HIV and STD testing frequency was posed. The sample believed regular HIV and STD testing was important to maintaining 'good' sexual

health, although they did not practice regular testing. Few men directly mentioned they used HIV and STD testing as a precaution taken to protect against HIV and STD infection.

Barriers to HIV & STD testing.

A lack of physical symptoms was identified as a barrier for STD testing; and relationship status was identified as a barrier for both HIV and STD testing in the sample. When asked to provide a reasoning why they screened less frequently for other STDs than HIV, several participants conveyed that STDs other than HIV were more likely to present physical symptoms in the form of discharge or pain, and a man ‘will just know’ if they are infected. Thus, a lack of physical symptoms meant STD testing, particularly regular STD testing, was less necessary and consequently, may have prevented the regular use of STD testing services among the men in this study. The participants who highlighted physical symptoms as a reason for less frequent STD testing stated similar sentiments of the following: “It [regular STD testing] needs to be. But..., I ain’t running around like that...I’m good...ain’t nothing burning, ain’t nothing happening so, ...everything is all good”. Another participant expressed similar feelings. He stated, “...I would think we know our bodies...if I wake up this morning [and] there’s a discharge, I’m going to take care of that...” A different participant was more descriptive in his explanation. He stated, “...I know if I’m pissing razors....HIV, you don’t have those physical symptoms”.

One participant implied that the consequences for HIV were much more severe than the consequences for other STDs when asked about regular HIV and STD testing, and men make health decisions based on consequences. He stated the following: “I don’t know about [women] or anything...but...we base our health on a consequence”. One other participant’s comments implied an innate knowledge of infection in response to the question about regular HIV and STD screening or the lack thereof. He said, “Mmmm, no, not really because...you’ll know if you have

something, like syphilis, gonorrhea, crabs, you just know. It's important, but it's not as important as AIDS because you don't know. Your body might let you know".

The relationship status of the men also emerged as a barrier to the regular use of both HIV and STD testing services among the men in the sample. Participants expressed that the regular use of testing services for HIV and other STDs was not necessary because they were currently married, in a monogamous relationship, or had recently been in a long term relationship. They emphasized the appropriate time for testing was prior to a sexual relationship with a new partner, but not otherwise. One participant stated "I just assume that [my] status has not changed...now...if and when I change partners then absolutely, but when I'm with the same partner I just assume that". Another participant emphasized a need of HIV and STD testing for both he and his partner only prior to a sexual relationship, and the desire for the relationship to be a committed and long-term relationship if he was getting tested for HIV and other STDs. He stated, "I mean...if I'm going to be engaging in sex with someone, then...I will want it to be...something that is committed, so...that would be something that we would both do....only if I'm in a relationship, yea".

Cues to action - motivations for HIV and STD testing.

Various motivations for HIV and STD testing were identified among the sample. First, a desire to know one's status of infection was the most common motivation for testing among the sample for both HIV and other STDs. HIV testing was more common than STD testing within this sample. This was supported by the knowledge and a sincere belief that initial HIV infection typically lacked physical symptoms. A lack of physical symptoms served to increase participants desire to know one's HIV status within this sample. Second, the knowledge of possible exposure to infection was the next most common motivation for HIV and STD testing. As a motivator, it

was mentioned more often for STD testing than HIV testing. Lastly, incarceration was also mentioned by the participants as a motivation to test for HIV and other STDs, but less frequently for STDs. The men cited educational programs or mandatory testing as the specific source of the motivation to test during their incarceration.

Willingness to accept routine HIV testing.

The men in this study were provided a brief summary and definition of the routine testing recommendation. They were asked would they accept or refuse routine testing if implemented in the health care settings they visit. The majority of men reported they would accept routine testing. None of the sample reported they would absolutely refuse routine testing. Yet, the sample had not heard about the recommendations for routine testing. When asked why they would accept routine HIV testing in health care settings, the overwhelming response was “why not?” This view was supported by a desire to know one’s status of HIV infection and an idea that the knowledge of the status of infection benefits them as patients, as well as providers. Also, an ability to address multiple health issues during one health visit was conveyed as a positive aspect of routine HIV testing by the sample. As noted by one participant in the study:

I mean cause if it’s being offered and why not just do it? And that’s how it [my first HIV test] happened the first time I went in. I was going to get an STD test and they were like, since we give you one, do you want to go ahead and take the HIV. But since I’m here, I’ll do it. So, I’m being offered, so [I will] do it all at the same time.

Another participant implied the safety of all parties, the patient and provider, was of great importance. He stated:

Mm, I would accept, I would accept it...because it, I mean, I’m an analogy person, so...I [kind of] liken it to, to going through the airport security. I mean, you gotta give ‘em the plane so they...know what they’re dealing with...and I think it would be fair for health care providers...to know what they’re dealing with before they undertake...treatment...or administer treatment. I think that would be fine...I mean, again you, unlike the airport security, that what you’re saying is you do have the...opportunity to opt out if you don’t want to, so, I mean I think...that’s fine...

The men who were unsure about accepting routine HIV testing expressed confidentiality concerns. One of the men clearly expressed how the results of the HIV test may increase future health insurance costs. The statement also captures the sentiment of the other participant who was unsure about accepting routine HIV testing.

I don't know, I mean, I've always rather keep my STD test separate from my straight medical files, even though like they are [only] distributed to you, somebody go[es] to public health, they're still retrievable, you know, but it's not directly linked to my, my health problems...I never know what I'm going to do down the road of my life, and...health insurance places, they look at your medical records...I don't know what [kind of] things, I mean what kind of stats they look at but, ok, this person, if this person has had Chlamydia, now then, now they [are a] high risk person now, so now my insurance, my health insurance will be going up...

Further questions about routine HIV testing were posed to the sample regarding discrimination, stereotyping, stigma, and inclusion of the testing with an annual physical exam. The men were asked whether or not they would be offended by routine HIV testing, or find it discriminatory or stereotyping and to explain their response. The sample of men reported that they would neither be offended by routine HIV testing nor find it discriminatory or stereotyping. The men with this opinion pointed to the benefits of the knowing one's status and perceived routine testing as a preventive sexual health measure, as well as a sign that health professionals were concerned with their overall wellbeing.

I don't know, I would think they [are] looking out for you...they actually trying to help you, you know in my mind, that's what I think... they [are] trying to help you, ok, if you got it...get some help or...whatever... same thing with STDs, if I think they...[are] looking out. Yea.

Another participant who agreed routine testing would not be offensive or discriminatory also implied in his statement that HIV as a disease does not discriminate, so routinely testing everyone for HIV would not be discriminating. He stated the following: "Because I mean, it comes in all shapes, sizes and colors....Ain't just black people, white people, Chinese, all kinds

of nationalities got AIDS, you know, have AIDS, die from AIDS...” A few participants felt routine HIV testing might or would be discriminating or stereotyping. One man reported he might be offended. However, his major concern was confidentiality and whether or not the information regarding his status of HIV infection would be shared with other parties. In addition, he expressed concern for the stigma associated with being HIV positive, specifically the negative connotations of an individual’s sexual behaviors that others may assume are associated with HIV infection.

...it depends on what they [are] going to do with the information. Ok, if you’re going to plan on doing something with the information, then, yep [I would find routine testing discriminatory or stereotyping].

I mean...I guess there’ll be pros and cons and things that I would fear...to be honest, it takes some mental maturity to go and get an HIV [test]. You got to be ready for the answers and...I think that’s the difficult part for most people, why they haven’t...been tested. And if you’re gonna [get tested], they make it...[that] people actually [just] going to the hospital [can get tested for HIV], I don’t know. They may not [want to be tested] though, they may not. I think for the greater good, it could have...the best effect but...if there is an example of where mandatory screening of a disease that [has] had...negative connotations [such] as HIV [and] has been proved successful in another setting, then I would probably be more convinced.

...it’s different for some[thing] like... polio, smallpox, that doesn’t have any behavioral consequence...It’s like...you [can] screen for those, it says nothing about you except that you got it, ok. With HIV... that has...a whole [other] connotation associated with it, like you screen for that and you have it, then, ok...what did you do to get it?

One participant directly said he would find routine HIV testing discriminatory.

Unfortunately, he failed to provide a clear explanation of why he believed it would be discriminatory. Yet, he emphasized that individuals would have differing opinions about routine HIV testing and differing opinions was typical; and he believed it would be discriminatory.

I find that discriminatory. Cause you know, reality is...one person’s going to say it’s to help society in general, you can have one group, one group who [will] say it [is] just focused on destroying the black men...then you going to have one group that [will] say, it’s crazy. People are going to have their differences...[in] opinions about it regardless.

The participants were then asked whether or not they believed routine HIV testing would reduce the stigma associated with HIV testing. The men reported they believed routine HIV testing would reduce the stigma associated with HIV testing. A belief routine testing would normalize HIV testing and lessen the embarrassment some people experience when seeking HIV screening, all while showing others a concern for one's personal wellbeing was the typical explanation of participants who view routine HIV testing would reduce stigma.

Yea, I think it would, cause...people wouldn't feel so ashamed...in [the] past with somebody like, knowing [their being screened for STDs]...cause I know...I wouldn't want to go into a clinic and then, they [people I may know] see me sitting over there in that [STD] section...but now, I feel like, I'm looking out for myself, I'm... trying to make sure I'm straight.

Several men in the sample thought routine HIV testing might reduce the stigma associated with HIV testing. The men believed that a fear of knowing one's status and the judgment on sexual behaviors that occurs as a result of seeking HIV testing services may persist and prevent some individuals from accepting the test when offered even if it is included as a part of routine health care. However, they believed that the men would be more likely to take advantage of the opportunity to test, although the recommendations still allow the patients an ability to refuse the test.

Mm, I don't know if I'd say it'd reduce the stigma, but...I feel like it could help it, I mean, I feel like it could because if nothing else, it's like...if a person tells somebody, oh, I just came from getting tested...[they may think] why you getting tested, what you been doing...that's [what] people think, you must have a reason [why] you think you need to go whereas, if it's a part of your regular thing...like one of those pap smears...no one thinks nothing of it...if it's something that's part of regular [screening tests].

Another participant with similar views said:

I think it should be offered because...even though they could reject it or whatever...it should be offered...because you know there's people out here and...they're scared and I feel sorry for 'em because...they letting their fear overtake them by not going and getting tested...but the fear of it...is not knowing if you got it, and you're passing it on to somebody else.

More specifically, one participant noted that education would be a requirement to reduce stigma.

He implied that routine HIV testing, alone, may not reduce stigma. He stated the following:

Probably... if they educate... at the same time, yea, but...come here, let me stick you, see if you got it, ok, you got it or not, keep moving, probably not...if you giving me some education...at the same time, then yea...

Several men directly stated routine HIV testing would not reduce any stigma associated with HIV testing. Generally, the men believed that most people were not concerned about HIV infection and believed they were not personally susceptible to the virus. In addition, a sentiment that individuals will still harbor a fear of testing because of the stigma associated with HIV infection for specific populations and a desire to not be perceived as a member of these populations was emphasized. One participant expressed the following:

I don't think so....In this new era of time, a lot people just don't even want to hear about it. You know, again, they are afraid....fear has proclaimed them because they've already throw[n] it to one primary group of people.... the more people that are affected by it, the more the finger points at them.

The sample reported were also willing to accept an HIV test as a part of an annual exam despite any reservations they may have had about routine HIV testing. They agreed accepting an HIV test as a part of an annual exam was due to a concern about their sexual health and a desire to know one's status. However, several participants were apprehensive of including HIV testing during an annual exam if it became mandatory. As noted by one participant:

It's not a horrible thing, but...I don't want to be mandated to do it...I don't like someone making me...do something. I would accept it if it's offered, but like I said, [if] they [are] trying to make me do it, I would probably be deterred from it just because they're trying to force me to do it.

The participants added that routine HIV testing during an annual exam would allow them to obtain multiple health services during one visit. In a direct and simple statement, one

participant said, “It wouldn’t bother me. Cause like I said, you checking for everything else--may as well”.

One participant was unsure about accepting an HIV test as a part of an annual exam. He shared a fear of knowing his status, especially if he had sexual intercourse with multiple partners within a year and even if he used a condom. He admitted that he would not accept the test more than one a year, if given the opportunity to refuse it.

I don’t know...I mean if, if I got tested and if I’m negative, right, well I’d say once a year I’d probably go do it, but within that year [if] I might have [had] a couple partners...I’d be scared, even though...I’m wearing a rubber, but I [would] still be scared. I’d try to dodge it if I can. I’d try to dodge it, but if it’s something I had to do, I got to accept it.

The men reported they visited the same provider for all health related issues, including sexual health. Men who visited one provider for all health issues cited an established rapport with the provider and a comfort level discussing sensitive health issues. The willingness of the sample to accept routine testing combined with having a primary health care provider with whom they address sexual health issues supports routine testing facilitated through general health care as a possible cue to test regularly for HIV, as well as other STDs.

Suggestions on increasing HIV and STD testing.

An open-ended question was posed to the sample about how heterosexual African American men could be encouraged to get regularly tested for HIV and other STDs. More specifically, the participants were asked to think of a project or campaign that they believe would be most effective to increase HIV and STD testing among this population, including specific messages or decision aids. The participants provided a variety of scenarios and directly identified the use of the media and entertainment industries as the most appropriate medium to encourage regular HIV and STD testing among heterosexual African American men. The range of mediums included everything from commercials and public service announcements by celebrities, athletes,

and musicians on television and radio to advertisements in video games. Specifically, the participants emphasized that organizations should use established programs and media that target already target or attract large audiences of heterosexual African American men (e.g., basketball and football).

The participants also proposed that HIV and STD testing projects and campaigns for heterosexual African American men should be connected to the maintenance of one's overall health and physical fitness through the efforts of community-based organizations, barbershops, churches, and community and recreation centers. They suggested HIV and STD testing services be offered with other health screenings, such as prostate cancer and heart disease related illnesses. One participant said:

It needs to be positive, it should be done in a positive manner, I don't have any specifics...but, I know it has to be in a positive manner and it should be presented in a way, that's probably already done, as a way of keeping up overall health...and do it in the spirit of, I'm going to say, brotherly love... have these tests, you know [your status and about your health]...you learn more about the disease and hopefully you do what you need to do, not to spread it...

The men believed face-to-face outreach would be an effective method to increase HIV and STD testing among heterosexual African American, and expressed a sentiment that men possessed a "see it, to believe it" attitude about HIV and other STDs, especially when targeting heterosexual African American men. They emphasized a need to see and hear the real experiences of HIV positive or STD infected heterosexual African American men, as well as women, with whom they could relate. One participant proposed:

I'd probably have, like a person with me that was affected by it, probably an STD or HIV and I would let them know. It would probably be a person the same age range as us, and I would let them know...it's not hard to get it. It doesn't matter who you are and what age you are or what sexual preference you have. Anybody can get it and what better way to motivate somebody than being [on] the [same] level, somebody that's already been through that. It's not like a scared straight thing but, let 'em know it's reality.

CHAPTER 5

DISCUSSION & CONCLUSION

Introduction

African Americans are disproportionately affected by HIV and other STDs (CDC, 2007a, 2008). Heterosexual African American men have been inadequately examined given the high incidence and prevalence rates of HIV and other STDs in the African American population, specifically among heterosexual African American women (CDC, 2007b, 2008). High-risk heterosexual contact as a method of transmission of HIV and other STDs continues to be the most common mode of infection for African American women and a growing mode of infection for African American men (CDC, 2008). HIV and STD screenings are important to prevent and reduce the risk of disease transmission. Testing also provides an opportunity for early diagnosis of infection and links those who are diagnosed with an infection to the appropriate medical care and services. The more recent studies that examine patterns of HIV and STD testing among men reveal that the levels of sexual health care use for men is inadequate (AGI, 2005; Anderson et al., 2005; Mosher et al., 2005, Kalmuss & Tatum, 2007); however, none of the studies specifically examined the use of HIV and STD testing services among heterosexual African American men.

The primary purposes of this study were threefold: (a) to identify predictors of HIV and STD testing services among heterosexual African American men, 18 - 44 years of age; (b) to determine the views of heterosexual African American men in Champaign, Illinois on routine HIV testing as recommended by the CDC; and (c) to obtain suggestions of how to increase the use of HIV and STD testing services of heterosexual African American men. The study utilized a mixed method research design, including secondary analysis of data from the 2002 National Survey of Family Growth to identify predictors of sexual health care use and interviews of a

convenience sample of heterosexual African American men living in Champaign, Illinois, to uncover information about the use of HIV and STD testing services among this understudied population.

National Survey of Family Growth

HIV and STD testing rates (lifetime and in the last year) were higher among heterosexual African American men, 18 – 44 years old than other studies that examined HIV and STD testing among U. S. men and women (Anderson et al., 2005; Kalmuss & Tatum, 2007; Mosher et al., 2005). Findings of higher rates of HIV testing among African Americans in the examination of large, representative samples is not uncommon (Anderson et al, 2005; Ebrahim et al., 2004; Ostermann et al., 2007; Rountree et al., 2009). The higher rates of HIV testing among African American men may be a result of targeted testing initiatives, such as “B. E. T. Rap-It-Up”, a decade long mass media partnership and health promotion campaign between The Kaiser Family Foundation and Black Entertainment Television to increase awareness, dialogue, and testing of HIV/AIDS within the African American community (Ebrahim et al.; KFF, 2010). Despite high testing rates, heterosexual African American men at increased risk for HIV and STDs still demonstrate a need for increased access and utilization of HIV and STD testing services. The regular use of testing services was not a common practice among heterosexual African American men, 18 - 44 years of age. The lack of testing may be life threatening in consideration for the state of the HIV and STD epidemics among African Americans.

The quantitative results provided a continuum of risk for the underutilization of sexual health services among heterosexual African American men, and thus a profile of heterosexual African American men, 18 – 44 years old who do not regularly seek HIV and STD testing. In this study, heterosexual African American men who were (a) younger than 25 years and older

than 34 years, (b) not widowed or divorced, (c) did not live alone, (d) earned low to middle incomes or very high incomes, (e) had private insurance, and (f) did not receive an annual check-up were less likely to regularly use HIV testing services. The findings are similar to the results of previously cited literature. Several studies found comparable associations with age and HIV testing in which younger and older adults having lower rates of testing (Inungu, 2002; Ebrahim et al., 2004; Fernández et al., 2002; Rountree et al., 2009). Given the increasing trend of HIV/AIDS cases among younger and older adult African American men (CDC, 2007b, 2008), this finding reveals a need to increase HIV testing initiatives targeting heterosexual African American men in these particular age groups.

Targeting younger African American men, 18 – 24 years old, in prevention efforts is an especially important priority given the early age at sexual initiation and higher number of lifetime partners among young African American adults (CDC, 2007d). HIV testing initiatives and campaigns should be coupled with culturally and age-appropriate HIV/AIDS education, awareness, and prevention programs to reduce or eliminate the risk of HIV infection. The use of culturally-specific programs should also consider race, as well as gender differences. This particular finding also provides evidence in support of new awareness campaigns targeting African American youth 18 – 24 years, including young African American men. In March 2010, the CDC launched “i know”, a social media campaign which utilizes a newly developed Website, social networking sites (e.g. Facebook, Twitter, etc.), text messaging, and public service announcements including African American celebrities such as Jamie Foxx and Ludacris to stimulate conversations around HIV/AIDS in the African American community (CDC, 2010a). The use of technological advance methods of HIV/AIDS outreach, and other non-traditional approaches, may be necessary to get the attention of heterosexual African American men.

Men who were not widowed or divorced were also less likely to have tested for HIV in the last year. Men who were not tested for HIV included men who were married and those who reported being in a relationship. Married men and men in relationships may not feel there is a need for HIV testing due to a belief and assumption of being in a monogamous sexual relationship with their partner. Men who had not tested for HIV also included men who had never been married and were not in a relationship. Unmarried heterosexual African American men while engaging in at-risk sexual behaviors, may have a low perception of personal HIV risk (Adimora & Schoenbach, 2002, 2005; Laumann & Youm, 1999; Mosher et al., 2005; Seal & Ehrhardt, 2004), demonstrating a need for regular HIV testing, but not seeking to use the services. Men with families were also less likely to test for HIV. Men with family members in their household may not feel a need to test for HIV due to having a family, which may include a spouse or committed partner and/or children, as well as an assumption of being in a monogamous sexual relationship. As a result, they too may not perceive themselves to be at risk for HIV infection and not seek HIV testing (de Wit & Adam, 2008).

Contrary to previous studies (Ebrahim et al.; Fernandez et al.; Rountree et al., 2009), minority men with lower to middle income levels were less likely to report HIV testing in this study. Men with middle to low incomes may be worried about the cost of HIV testing and not aware of free and low-cost HIV testing resources. They may also be reluctant to get tested for HIV due to an inability to afford the medical costs associated with treatment if diagnosed with HIV (de Wit & Adam, 2008). Men with private insurance being less likely to test for HIV than uninsured men demonstrates that having access to health care may not translate into the use of all health care services. Men with private insurance may not seek HIV testing services for several reasons: (a) the patient may be uncomfortable discussing sexual-related issues with their primary

care physician, (b) the patient may not want the results of the HIV test included in their medical records, and (c) the cost of HIV testing may be higher than what the patient is willing to pay.

Men who received a routine physical exam were more likely to report HIV testing. This finding is supported by several results of other studies presented in the literature (Anderson et al. 2005; Bond et al., 2005; Fernández et al.; Ostermann et al., 2007; Rountree et al.). The association of the receipt of a routine physical exam with HIV testing shows that actually visiting a health care facility and being seen by a health professional may be required to increase the use of HIV testing services for heterosexual African American. HIV testing may be prompted by the visit, alone, or recommended by the physician or another health care professional during the visit. The association demonstrates that it is not enough just to have access to health care, e.g. having insurance; men must also make use of the health care services.

The profile of men less likely to use STD testing was vastly different from those less likely to use HIV testing. Men who (a) lived in large metropolitan and in non-metropolitan and/or rural areas; (b) were employed; (c) had not received an annual check-up; (d) had not used a condom the last time they had vaginal sex; and (e) had not engaged in sexual activities at increased risk of STD infection, such as anal sex and sex with a female intravenous drug user, composed the profile of heterosexual African American men, 18 – 44 years who were less likely to regularly use STD testing services. The association of men who lived in rural areas having a decreased likelihood STD testing may represent a lack of STD testing resources. If testing resources are available, confidentiality concerns, such as personally knowing the health professional administering the test or fear of the results being released may prevent them from seeking services. Similar to HIV testing, a visit to the doctor for services other than sexual health care may encourage the use of STD testing. Men who had a routine physical exam were more

likely to report STD testing in the last year. The results demonstrate that, again, having an actual visit with a health care professional influenced sexual health care use.

Sexual risk behaviors had a more prominent role in predicting STD testing among heterosexual African American men in this study. Heterosexual African American men, 18 – 44 years old are engaging in high risk sexual behaviors. Men who had anal sex without a condom and sex with a female intravenous drug user had an increased likelihood of reporting STD testing in the last year. It seems that heterosexual African American men at increased risk of STD infection acknowledge their risk and as a result seek regular STD testing. In contrast, heterosexual African American men may underestimate their risk of STDs while still engaging in risky sexual activities. Men who had vaginal sex without a condom were less likely to report STD testing in the last year. The men may underestimate their personal risk of STD infection due to their relationship status or not engaging in sexual activities at an increased risk of infection. The men may be married or in a monogamous relationship with their sexual partner and believe STD testing is unnecessary because of their relationship status. Yet, the men may also be single men who engaged in unprotected vaginal intercourse, but still did not seek STD testing services.

The hypotheses for this study stated that heterosexual African American men, 18 – 44 years old with improved social determinants of health, health care access, and responsible sexual behaviors would be more likely to reporting HIV and STD testing in the last year. This proved true for very few variables: only moderately higher incomes predicted HIV testing, and having had a routine physical exam in the last year predicted both HIV and STD testing. African American heterosexual men engage in risky sexual behaviors, but may not fit the traditional risk-based assessment model used for HIV screening, as well as the screening for other STDs. As a result, targeting heterosexual African American men during routine health care visits may be an

effective (and less threatening) means to increase HIV and STD testing use and awareness among this population. The association between sexual health care use and a routine physical exam may demonstrate a level of comfort with the health care professionals and/or the health care organization among heterosexual African American men. Bond et al. (2005) argued that “efforts to improve the uptake of HIV testing by heterosexual men at high risk should focus on improving men’s access to, and utilization of, routine health care” (p. 1). The findings of this study support their results and conclusions for HIV testing, and provide new evidence for STD testing. Thus, efforts to improve the uptake of HIV & STD testing by AA heterosexual men at high risk should focus on improving men’s access to, and utilization of, routine health care.

Health Belief Model and HIV & STD Testing

Tenets of the HBM may prove well suited in the assessment of HIV and STD testing practices and assist in the understanding and explanation of sexual health care use among heterosexual African American men 18 – 44 years old in Champaign, Illinois. The responses of the participants provided information related to each construct. The interviews called attention to several important factors that may influence HIV and STD testing use among heterosexual African American men, and enabled an assessment of their patterns of HIV and STD testing based on findings from the 2002 NSFG data. First, there is an obvious disconnect and contradiction between the expressed beliefs and concern about HIV and STD infection and their actions and behaviors employed to prevent infection among heterosexual African American men. The men expressed a high level of concern and fear for HIV infection and a moderate level of concern for STD infection. The men indicated that the severity of HIV motivated practices to protect oneself from HIV infection. Death was the primary reason the men feared becoming

infected with HIV. The knowledge of how one will succumb to death may be overwhelming for the men in this study.

The higher level of fear for HIV infection compared to STD infection, unfortunately, was not enough to encourage the regular use and adoption of safer sex-related behaviors to prevent infection, including testing as a self-protective action. Other than condom use, most of the men do not inquire about the HIV and STD status of new partners prior to first sex, lacked knowledge of the severity of the epidemic within the African American community, and did not regularly test for HIV and other STDs. The disconnect and ambiguity between concern and behavior demonstrates a need for HIV and STD education and risk reduction prevention programs targeting heterosexual African American men. Specifically, it is imperative for the men in this sample to know that infections of other STDs exponentially increase their risk of HIV. In other words, ignoring other STDs increases the probability of contracting HIV if exposed. Thus, the men in this study may want to consider other STDs as a serious threat to their sexual health because STD infection could lead to HIV infection.

Health media campaigns are well-known for employing fear-based messages to increase risk perception and improve health practices, such as altering personal decision-making and behaviors, to address public health issues. Strong fear-based messages were found to be effective in producing behavior change when coupled with messages of high-efficacy (Witte & Allen, 2000). U. S. health professionals and experts in HIV/AIDS education and prevention are known to be resistant to the use of fear-based messages and place value on “feel-good” messages that emphasize “a healthy, active sex life” (Green & Witte, 2006, p.246). This inquiry revealed that heterosexual African American men may fear HIV infection, but not enough to consistently use safe sex-related behaviors. As result, non-traditional approaches such as fear-based messages

may be effective to increase HIV preventive measures among heterosexual African American men.

Second, the men provided vague and unclear definitions of sexual health emphasizing sexual functioning and an ability to bear children or reproduce as the important components of sexual health. HIV and STD infection was not a commonality across participants' definitions of sexual health. Their definitions of sexual health may have influenced whether or not the interview participants considered HIV and other STDs as a threat to their sexual health, as well as a factor in determining their health status. Sexual health is not just the absence of sexual dysfunction and disease, but also includes "a state of physical, emotional, mental, and social well-being in relation to sexuality" (CDC, 2010b). A clear definition of sexual health and its components may increase the number of men in this study that perceive HIV and other STDs as a threat to their sexual health.

The men's definitions of sexual health were congruent with their beliefs about the benefits of HIV and STD testing. Many perceived the maintenance of their sexual health, particular sexual functioning and reproduction, as the sole benefit of HIV and STD testing. It demonstrates that heterosexual African American men value their ability to engage in the pleasure of sexual activities, as well as bring life into the world. HIV and STD prevention efforts targeting heterosexual African American men should highlight the potential negative consequences of HIV and STD infection to their reproductive health and sexual functioning, as well as that of their partners. Too often couples fail to consider the long-term consequences of minutes of sexual pleasure; and diminish the importance of knowing and verifying the infection status of themselves and their partner. A focus on the overarching consequences of infection, and

the benefits of regular HIV and STD testing, may motivate men to take more precautions to prevent HIV and STD infection, including increase HIV and STD testing use.

Third, the common barriers to HIV and STD testing among men were being in a relationship and a lack of physical symptoms, specifically for STD testing. Many men expressed the idea that being in a relationship made regular HIV and STD testing unnecessary. This is a recipe for danger. Everyone would like to wholeheartedly trust their partners; however, an assumption of monogamy should not cost a person his or her life. Infidelity in relationships, even in marriages, is common, whether it is intentional or unintentional. Partners who have sex outside of the primary relationship try to conceal the infidelity. Regular HIV and STD testing, in addition to condom use if unmarried, is a tool to protect oneself and their partner, whether or not infidelity occurs; and if one believes testing will cause tension or mistrust in the relationship, it can be done without the knowledge of the partner. A lack of physical symptoms emerged as a barrier to STD testing. Many men were less concerned about other STDs, such as gonorrhea, chlamydia, or syphilis because physical pain or comfort would signal infection. Many STDs have no symptoms and by the time symptoms develop, an infection has already occurred. Symptom-based testing is reactive, not proactive. Thus, the practice of regular STD testing, specifically for infections with a delayed onset of symptoms, is necessary to prevent infection, as well as reinfection in some cases.

Fourth, a desire to know one's status of infection, knowledge of possible exposure, and incarceration were the most common cues to use HIV and STD testing services for heterosexual African American men. The desire to know one's status was higher for HIV than other STDs due to a lack of or delayed physical symptoms of infection. The prevalence of this sentiment among these men may also be the result of targeted HIV testing campaigns, as previously cited for the

high rates of testing in the quantitative arm of this study; however, a desire to know one's status was less likely to motivate regular HIV and STD screening. Knowledge of possible exposure to infection as a cue to action demonstrates a healthy level of fear may encourage heterosexual African American men in Champaign to seek HIV and STD testing. On the other hand, the men in the qualitative sample had a history of incarceration. African American men are disproportionately represented in federal and state correctional facilities. The percentage of African American males in prison is 6.5 times that of White men (U. S. Department of Justice [DOJ], 2009). Still, it is important to recognize that not all African American men go to prison in their lifetime and several in this sample had never been incarcerated. Men outside of prisons also engage in high-risk sexual behaviors; and men inside of prison may have place themselves at risk for HIV before being incarcerated. In addition, incarceration does not guarantee testing opportunities. Not all correctional facilities require or offer HIV and STD testing. Incarceration assists in combating HIV and STD epidemics by serving as an alterative source of testing for incarcerated heterosexual African American men; however, reliance upon it as a primary source of testing should be approached with caution.

The 2002 NSFG data also offered information for the men interviewed for the qualitative component of the study. It provided a continuum of risk for categorizing the risk levels of the men who volunteered for the qualitative component of the study. The continuum of risk focused on the common predictor of having had a routine physical exam that emerged for both HIV and STD testing in the last year. Higher rates of HIV and STD testing would be expected if a higher proportion of heterosexual African American men reported having a routine physical exam in the last year. As a result, most of the men who participated in the interviews occupied a high position on the continuum for the utilization of HIV and STD testing based on the predictor of a

routine physical exam. Men who received a routine physical exam in the last year accounted for 80% of the qualitative sample. HIV and STD testing was reported by 57 and 37%, respectively, of the men participating in the interviews. These proportions were higher than the 59% that reported a routine physical exam from the 2002 NSFG data, and the HIV and STD testing proportions of 31%.

Views of Routine HIV Testing

The sample of heterosexual African American men, 18 - 44 years old in Champaign, Illinois expressed a willingness to accept HIV testing as a part of routine care. They were not opposed to receiving HIV testing as a part of their annual exam as long as it was not mandatory. A desire to know one's status of HIV infection, a concern for overall health, and an ability to address multiple health issues during one health visit were emphasized as major benefits of being offered routine HIV testing. According to de Wit & Adam (2008), the men are more likely to test for HIV because they perceive more benefits from testing, in this case specifically routine HIV testing. The benefit of the ability to address multiple health issues during one visit perceived from routine HIV testing also presents the option for men to not have to intentionally seek out services for HIV testing. The service is brought to them.

Those who were unsure about accepting routine HIV testing clearly expressed concerns with confidentiality in maintaining the privacy of patient records and how the results of HIV testing may negatively impact access to health insurance and coverage. Such concerns demonstrate a level of mistrust of the health care system and anxiety about the costs and/or loss of health care still exist as potential barriers to health care use and access among African Americans (Awad et al., 2004; Boulware, Cooper, Ratner, LaVeist, & Powe, 2003).

Most of the men also admitted they would not perceive routine HIV testing to be offensive, discriminatory or stereotyping. Again, the benefits of knowing one's status of HIV infection and the perception of routine HIV testing as a preventive sexual health measure outweighed any uncertainty about motives for implementing routine HIV testing (de Wit & Adam, 2008). A concern for one's overall health was cited as an important factor in a decision to accept routine HIV testing if offered. The few men who were unsure about whether or not routine HIV testing would be discriminating or stereotyping were concerned about confidentiality issues and the stigma associated with being HIV positive (Awad et al., 2004; de Wit & Adam, 2008).

The majority of men had a routine physical exam in the last year, even though a several lacked health coverage in the last year and were uninsured at the time of the study. Hence, most had visited some type of health care provider in the last year, however were unaware of the recommendations for routine testing. This suggests that routine HIV testing policies may not be implemented in some health care facilities and/ or reluctance exist to practice routine testing among this sample of heterosexual African American men in Champaign, Illinois. Since the recommendations were finalized in 2006, it appears the uptake of routine testing by health care organizations, as well as the dissemination of information, has not reached these heterosexual African American men. It is imperative that multiple approaches to sexual health care use are utilized for heterosexual men, especially when they may have limited access to preventive care.

Routine HIV testing recommendations which suggest implementing HIV testing in all healthcare settings as a part of routine medical care, may increase opportunities and access to both HIV and STD testing services for heterosexual African American men who do not have access to routine health care or those who do have access, but do not use HIV testing services.

More specifically, the implementation of the recommendations may benefit populations without access to routine care and who may be more likely to seek health care in emergency rooms and community health clinics. Efforts of routine testing recommendations to increase testing among heterosexual African American men in Champaign, Illinois that do not fit the traditional risk-based model utilized for HIV screening may be more appropriate and effective when considering heterosexual African American men (CDC 2006a, 2006b). The heterosexual African American men in this sample view routine HIV testing a component of maintaining their overall health and will accept routine HIV testing, even during an annual physical exam, as long as it is not mandatory. Health promotion activities and programs to increase regular HIV and STD testing among heterosexual African American men can be delivered through a variety of mediums; however, messages that encourage HIV and STD testing need to highlight the influence of sexual health status on general health, be coupled with other health screenings and services, and be delivered by a peer who has an experience with HIV or STD infection.

Unfortunately, this study did not focus on the stigma associated with being HIV positive; however, the men were asked to provide their thoughts on the stigma associated with HIV testing. The men believed routine HIV testing would reduce the stigma associated with HIV testing and normalize HIV testing. The implementation of routine testing was found to increase the uptake of HIV testing, thus normalizing HIV testing in relation to other STD screening (Brooks et al., 2009). The participants who were unsure about its ability to reduce the stigma surrounding HIV testing believed individuals would still be reluctant to access HIV testing services due to feelings of embarrassment and judgment on personal behaviors when seeking an HIV test. Yet, they did not identify specific sources of judgment in response to this inquiry. Those who believed routine testing would not reduce stigma expressed a belief that a lack of

concern for HIV infection exists among heterosexual African American men. There is a need for more education about HIV testing resources, options, and procedures targeting this population. Education may alleviate concerns about stigma and increase regular testing practices.

Suggestions to Increase HIV & STD Testing

The men in this sample suggested variety of strategies may be necessary to increase regular HIV and STD testing among heterosexual African American; however, messages need to focus on sexual health as a component of the maintenance of overall health. Programs and interventions to increase regular screenings need to be coupled with the delivery and screening of other more common health services, as well as integrated in the interests and activities in which heterosexual African American men are already engaged and involved, such as athletics, fitness, recreational activities, and entertainment. The programs should also be delivered by their peers, or individuals with whom they have commonalities. The men believed that heterosexual African American men are interested in hearing the personal testimonies and experiences of individuals infected with HIV and other STDs.

Limitations and Future Research

Several limitations existed for this study. The use of secondary data presented constraints in the development of questions and measures for variables formulated for a difference purpose than those of the secondary researcher. The sample may have included men who did not accurately report their sexual preferences and behaviors, for example, men who self-identify as heterosexual, but participate in sexual activities with men. Also, the study is a cross-sectional design and the data may be outdated since collected in 2002. Any other limits on the quantitative analysis were overcome in part with the qualitative prong of analysis.

The qualitative component of the study also has a few limitations. Participants may have not been comfortable being interviewed by a female. As a result, they may have provided socially desirable responses to inquiries of a sensitive nature. Self-reports on personally sensitive health topics may have compromised the validity of the data collected through interviews. The sample of the study was small, as well as convenient. Interviewing subjects located in Champaign-Urbana, Illinois limits the generalizations of findings to heterosexual African American men surveyed in the quantitative portion of the study or those in the rest of the country. The validity of my interpretations of the data may raise some questions. In qualitative research, interpretations are subjective and may not represent the ideas of the participants examined. This limitation can be addressed in this study by referring to the data. The variability and openness of the responses demonstrate that the interpretations of the data were not fabricated, but that they are the product of conscious analysis of the responses provided by the participants.

For both the quantitative and qualitative components of this study, and for studies of sexual and other HIV risk behavior, the majority of information is obtained via self-report. Participants may have difficulty recalling the requested information, or may underreport socially undesirable or over report socially desirable behaviors either consciously or subconsciously. It is also possible that there inter- and/or intra-interviewer differences in the reading of the questions will occur, as well as errors in recording, due to the questionnaires being interviewer-administered. Although the PI has extensive training to avoid this type of error; it is possible anytime information is collected using interview techniques. It is also important to acknowledge that testing for HIV and other STDs, alone, is not sufficient to alleviate the epidemics. Adjustments in beliefs regarding HIV and STDs and the adoption of safe sex-related behaviors

are necessary to prevent infection, including returning to receive the results of one's status after being tested. The quantitative measurement included an item regarding STD treatment which provided information about STD infection, and thus knowledge of infection status in the last year; however, it did not include any items that addressed whether or not participants received the results of their HIV test after testing. Participants may have tested for HIV, but did not return for the results, thus, they may be still unaware of their infection status. Questions related to the receipt of test results can be posed without divulging the actual outcomes of the diagnostic tests. This was not a limitation for the qualitative component of the study because questions in the interview were developed to evoke responses related to obtaining the results of testing. In addition, each participant volunteered their status of infection at some point during the interview although it was not directly asked. Consequently, knowledge of the interview participants having returned to receive the results of being tested was revealed.

Yet, given the lack of existing literature on HIV and STD testing among heterosexual African American men, this project provided a foundation on which other studies can be developed. A quantitative methodology guided by the HBM could be employed to examine predictors of HIV and STD testing use among this understudied population. A quantitative measure, using the Health Belief Model as its theoretical framework, could be more accurate in predicting HIV and STD testing use among heterosexual African American men. It could also serve to broaden the application of the HBM among a culturally diverse population of men. A partial or full model could be developed and tested to assess and better understand any number of the variables related to the HBM constructs that emerged in the qualitative study as salient factors among heterosexual African American men for HIV and STD testing.

Further, the test would serve to identify which HBM constructs will be most predictive of HIV and STD testing among heterosexual African American men. Specifically, the study could focus on: (a) concern for HIV and other STDs and HIV being perceived more seriously than other STDs and inquiring about the HIV and STD status of new partners prior to first sex, and personal knowledge about the severity of the HIV and STD epidemics with the African American community; (b) the maintenance of sexual health as a primary benefit of HIV and STD testing; (c) lack of physical symptoms as a barrier to STD testing and being a relationship as a barrier for both HIV and STD testing; and (d) desire to know one's status coupled with a lack of physical symptoms of HIV infection, possible exposure, a history of incarceration, and routine HIV testing as cues to test for HIV and STDs among heterosexual African American men. Constructs of the HBM that successfully predict HIV and STD testing use for heterosexual African American men could be integrated into the planning, development, and implementation of programs and interventions aimed to increase testing.

The acceptance of routine HIV testing in health care settings can also be further examined following patient care. In a multi-site program study of health care facilities serving communities disproportionately affected by HIV and which have implemented routine HIV testing, patients seeking care could be assessed on whether or not they accepted routine HIV testing. Patients could be surveyed in the clinical setting immediately following their health care visit (a) to determine rates of acceptance for routine HIV testing, (b) examine reasons for acceptance or rejection and future intentions of accepting routine HIV testing, and (c) examine patient awareness of routine HIV testing policies and recommendations prior to the visit. In addition to acceptance of routine testing, the patients' perception of the physician's approach and comfort offering HIV testing could also be investigated.

Other research is also needed that focuses on heterosexual African American men in regards to: (a) basic HIV and STD knowledge; (b) knowledge of the impact of epidemic within the African American population; (c) perception of HIV and STDs as a threat to their sexual health; (d) the definition and importance of sexual health; (e) partner communication and knowledge about HIV and STD status at various stages of sexual relationships, including comfort level, and context and frequency of such discussions; and (f) behaviors indirectly related to sexual risk, such as personal alcohol and drug abuse. In addition, future investigation should address the possible influence of past experiences with HIV and STD testing, as well patient-physician discourse about HIV and STDs, on the use of HIV and STD testing among heterosexual African American men. Hopefully, such studies will increase an understanding of African American sexuality and its role in the epidemics of HIV and STDs in the African American community.

A dearth of literatures exists that examines the practices and views of HIV and STD testing for heterosexual African American men. It is hoped that this study demonstrates a need to address the knowledge gap regarding the role of heterosexual African American men in the HIV and STD epidemics among the African American population. Hopefully, the findings will steer the development of HIV and STD prevention programs specifically for this population; and encourage the establishment of an alternative approach to reducing HIV and STD rates among African American women by directing some prevention efforts to their partners, heterosexual African American men. In addition, it is hoped that this study will ignite a series of similar investigations into the sexual practices and sexual health care use of heterosexual African American men within the context of a heightened HIV and STD epidemic among African Americans.

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APPENDIX A

MALE SEXUAL HEALTH INFORMED CONSENT

Dear Potential Participant,

You have been invited to participate in this study to measure your views about HIV and STD Testing and CDC's recent recommendation for routine HIV testing. The study is being conducted by Regine Rucker, a doctoral candidate at the University of Illinois at Urbana-Champaign (UIUC) in the Department of Kinesiology and Community Health. Upon completion of reading this letter, you are asked to verify that you have completely read and comprehend the purpose of the interview and agree to participate. This survey is being conducted to understand HIV and STD testing behavior among heterosexual African American men.

You are eligible to participate in this study if you are (a) African American (b) male, (c) self-identify as heterosexual, (d) sexually active, (e) between 18 and 44 years of age, and (f) able to speak and read English. Participants in this study will be compensated \$30 at the completion of the interview. Participation is also voluntary, "You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigator, the University of Illinois, or your course assignments or grades". Your responses during the session will be audio taped for transcription by the investigator. To maintain confidentiality, you will not be required to provide your name or any other identifying information during the interview recordings. You will be asked not to mention any names in your responses to the question items. You are not required to answer any questions that make you uncomfortable. In addition, because data will be collectively analyzed your name will not be associated with your responses. The interview should take approximately 1-hour to complete. Your decision on whether or not to participate will not result in any loss or gain of benefits to which you are otherwise entitled.

The benefits you will receive by participating in this survey are an increase in your level of HIV and STD awareness, knowledge of national health policy recommendations, and an examination of personal behaviors. On the other hand, in examination of personal behaviors, some questions may make you feel uncomfortable. As a result, resources about local HIV and STD testing and counseling services are included on the reverse of this summary, of which you will receive a copy. Results of this study could potentially be submitted for publication in academic journals and/or conference presentations. The risk are not greater than those encountered in daily life. As a survey participant, you have the right to ask questions about the content and collection of the study information. Please address any questions or concerns about this study via phone or email to Dr. Reginald Alston at (217) 333-3789 or alston@illinois.edu and Regine Rucker at (616) 862-0572 or rrucker2@illinois.edu. If you have any questions about your rights as a research participant that has not been answered by the investigator, you may contact the University of Illinois at Urbana Champaign, Institutional Review Board at (217) 333-2670 or irb@illinois.edu. Thank You.

- I am 18 years of age or older.
- I have read and understand the above consent form and voluntarily agree to participate in this study.
- I will be given a copy of this consent form for my records.

Participant Signature

Date

HIV AND STD TESTING & COUNSELING RESOURCES

HIV and STD Testing and Counseling Services

The following organizations provide free or low-cost testing and counseling for HIV and other STDs, such as chlamydia, gonorrhea, syphilis, and others. Call the site for more information about their services and if an appointment is necessary.

Carle HIV Clinic
602 W University Ave
Urbana, IL 61801
(217) 383-1554

Champaign-Urbana Public Health District
201 W. Kenyon Road
Champaign, IL 61820
(217) 239-7827

McKinley Health Center (for UIUC students only)
1109 S. Lincoln Avenue
Urbana, IL 61801
217-333-2701

Planned Parenthood of Illinois
Champaign Health Center
302 E Stoughton
Champaign, IL 61820
(217) 359 – 8022

Prairie Center Health Systems Incorporated
122 W Hill Street
Champaign, Illinois 61820
(217) 356-7576

Prairie Center Health Systems Incorporated
718 Killarney
Urbana, IL 61801
(217) 328-4500

APPENDIX B

MALE SEXUAL HEALTH DEMOGRAPHIC SURVEY

Thank you so much for agreeing to participate in this study! Please answer the following demographic and health related questions. Select the most applicable response for you. Your answers are anonymous; therefore please answer each question as honestly as you can. Feel free to skip any questions you do not feel comfortable answering. Please CIRCLE your response(s).

| | |
|-----------------------------|--|
| 1. What is your age? | |
|-----------------------------|--|

| | |
|--|---|
| 2. What is the highest level of education you have completed? | |
| Less than high school | 1 |
| High school graduate or GED | 2 |
| Some college, but no degree | 3 |
| 2-year College Degree (e.g. Associates) | 4 |
| 4-year College Degree (BA, BS) | 5 |
| Graduate or Professional Degree | 6 |

| | |
|---|---|
| 3. What is your current marital status? | |
| Married | 1 |
| Not married, but living together with a partner of the opposite sex | 2 |
| Widowed | 3 |
| Divorced | 4 |
| Separated | 5 |
| Never been married | 6 |

| | Yes | No |
|---|-----|----|
| 4. Are you currently employed? | 1 | 2 |
| 5. Are you now going to, or on vacation from, regular school? | 1 | 2 |

| | Yes | No (Please stop completing survey) |
|---|-----|------------------------------------|
| 6. Do you currently reside in IL near Urbana & Champaign? | 1 | 2 |

| | FULL-TIME | PART-TIME | Some of each | N/A |
|--|-----------|-----------|--------------|-----|
| 7. If employed, do you work FULL-TIME or PART-TIME, or some of each on your current job? By FULL-TIME, I mean 35 or more hours a week. | 1 | 2 | 3 | 4 |
| 8. If a student, are you enrolled FULL-TIME or PART-TIME, or some of each? | 1 | 2 | 3 | 4 |

| 9. What is your total household income, including all earners in your household? | |
|--|----|
| Under \$10,000 | 1 |
| \$10,000 - \$19,999 | 2 |
| \$20,000 - \$29,999 | 3 |
| \$30,000 - \$39,999 | 4 |
| \$40,000 - \$49,999 | 5 |
| \$50,000 - \$59,999 | 6 |
| \$60,000 - \$69,999 | 7 |
| \$70,000 - \$79,999 | 8 |
| \$80,000 - \$89,999 | 9 |
| \$90,000 - \$99,999 | 10 |
| \$100,000 - \$149,999 | 11 |
| More than \$150,000 | 12 |

| | Yes | No |
|---|-----|----|
| 10. Have you ever spent time in a jail, prison or juvenile detention center? | 1 | 2 |
| 11. In the last 12 months, have you spent any time in a jail, prison or juvenile detention center? | 1 | 2 |

Now, I want to ask you about your health insurance access and issues related to your health. Select the most applicable response for you. Your answers are anonymous; therefore please answer each question as honestly as you can. Feel free to skip any questions you do not feel comfortable answering. **Please CIRCLE your response(s).**

| | Yes | No (Go to Question #14) |
|---|-----|-------------------------|
| 12. Is there a place that you usually go to when you are sick or need advice about health? | 1 | 2 |

| 13. What kind of place is it? | |
|--|---|
| Private doctor's office | 1 |
| Community / public health clinic | 2 |
| School or school-based clinic | 3 |
| Hospital emergency room | 4 |
| Urgent care center, urgi-care, or walk-in facility | 5 |
| Some other place | 6 |

| | Yes | No |
|--|-----|----|
| 14. In the past 12 months, was there any time that you did not have any health insurance or coverage? | 1 | 2 |

| | A private health insurance plan | A public health insurance plan | Other (Please explain) |
|---|---------------------------------|--------------------------------|------------------------|
| 15. In the past 12 months, which of these were you covered by? PRIVATE – From employer or workplace; Purchased directly; Through a state or local government program or community program PUBLIC – e.g. Medicaid | 1 | 2 | 3 |

Other (Please explain):

| | | |
|--|------------|-----------|
| 16. How often do you receive a physical examination? Please explain. | | |
| | Yes | No |
| 17. In the past 12 months, have you had a routine physical examination? | 1 | 2 |

| | |
|---|---|
| 18. How did you hear about this study? | |
| Email | 1 |
| Word of Mouth | 2 |
| Flyer | 3 |
| | |

| | |
|---|---|
| Please specify where you viewed the flyer. | |
| Other (Please explain): | 4 |
| | |

Thank you for completing this brief demographic questionnaire! We will now proceed to the interview. Please remember, if you know of any other African American men, 18-44 years of age, who would be interested in participating in this study, please provide them with a copy of the research study flyer.

Thanks again! Your help is very much appreciated.

APPENDIX C

MALE SEXUAL HEALTH INTERVIEW SCHEDULE

Introduction / Establishing Rapport

1. What is your current relationship status?
 - a. If in a relationship, how long have you been in the relationship?
 - b. Is this a committed or casual relationship? If so, for how long?
2. How would you rate your health status on a scale of 1-10?
3. What factors do you use to determine your health status?

Segue: Many people include reproductive (the ability to bear a child) and sexual health (intended function of sexual organs, as well as absence of STDs) as a component in determining their health status

4. Is sexual health a factor that you use to determine your health status?
 - a. How would you define sexual health?
 - b. Is sexual health important to you? Why or why not?
5. How do you maintain your sexual health?
6. How would you describe a person with “poor” sexual health? What sexual practices would they engage in?
7. How would you describe a person with “good” sexual health? What sexual practices would they engage in?

Perceived Threat of HIV & STDs

Segue: There are two types of STDs, bacterial and viral. Bacterial STDs are curable. Common bacterial STDs are Chlamydia, gonorrhea, syphilis, and UTIs. On the other hand, viral STDs are not curable, only treatable. Common viral STDs are genital herpes (aka Herpes), genital warts (aka HPV), hepatitis, and HIV. However, many people view HIV separate from all other STDs....

1. Do you view HIV separately from all other STDs? Why or why not?

Segue: For the purpose of this study, we will discuss HIV separately from all other STDs.

2. Do (or did) you take precautions to protect yourself from HIV? And STDs?
3. Do (or did) you inquire about the current....
 - a. HIV status of a new partner prior to first sex, whether vaginal, oral, or anal?
 - i. How do you verify their status?
 - b. STD (e.g. Chlamydia, gonorrhea, syphilis, etc.) status of a new partner prior to first sex, whether vaginal, oral, or anal?
 - i. How do you verify their status?
4. Do (or did) you inquire about the STD history of a new partner prior to first sex, whether vaginal, oral, or anal?

Perceived Threat of HIV & STDs cont.

5. Do you view
 - a. HIV as a significant health problem in the African American community?
 - i. What do you know about the issue of HIV among the African Americans (e.g. men, women, and teens)?
 - b. STDs as a significant health problem in the African American community?
 - i. STDs (e.g. Chlamydia, gonorrhea, syphilis, etc.) the African Americans (e.g. men, women, and teens)?
6. Are (or were) you fearful of getting HIV? And STDs? Why or why not?
7. Have you obtained information about....
 - a. HIV? If so, from what sources do you obtain information? How much do you seek out more information about HIV?
 - b. STDs? If so, from what sources do you obtain information about STDs? How much do you seek out more information about STDs?

Segue: A lot of people find it difficult to talk to their sexual partners about HIV and other STDs.

8. Do you find it difficult? How much do you openly talk to your sexual partner(s) about ...
 - a. HIV? Why?
 - b. STDs? Why?
9. Do you know if your most recent partner has been tested for ...
 - a. HIV? Do you know their status? Could you describe the circumstances surrounding this conversation?
 - b. STDs? Do you know their status? Could you describe the circumstances surrounding this conversation?
10. How much have you discussed the topic of ...
 - a. HIV with your sexual partner(s) in the last month? and with others (e.g. friends, associates, etc.) in the last month? Who? What occasion?
 - b. STDs with your sexual partner(s) in the last month? and with others(e.g. friends, associates, etc.) in the last month? Who? What occasion?
11. How much do you talk to those of the opposite sex about ...
 - a. HIV? Who? Describe the circumstances surrounding the conversation?
 - b. STDs? Who? Describe the circumstances surrounding the conversation?
12. How much do you talk to those of the same sex about ...
 - a. HIV?
 - b. STDs?
13. How would you describe a person who is...
 - a. HIV+? Have you ever known an individual diagnosed as HIV+? Did this impact your sexual practices and behaviors? If so, how?
 - b. STD? Have you ever known an individual diagnosed with an STD? Did this impact your sexual practices and behaviors? If so, how?

Male Sexual Health Care Use

1. Have you sought medical help for sexual health issues?
 - a. If so, at what point did you seek medical help for sexual health issues?
 - b. If not, at what point would you seek medical help for sexual health issues?
2. Have you ever been tested for...
 - a. HIV? What motivated you to be tested? If not, why not?
 - b. STDs? What motivated you to be tested? If not, why not?
3. Is regular...
 - a. HIV testing part of maintaining your sexual health? If so, why? If not, why not?
 - b. STD testing part of maintaining your sexual health? If so, why? If not, why not?
4. How often do (or did) you test for....
 - a. HIV? Why?
 - b. STD? Why?
5. Where do (or did) you go for...
 - a. HIV testing?
 - b. STD testing?
6. Prior to your current relationship status were you sexually active? For how long?
7. What do you think about condoms? Do you feel condoms are important to maintaining 'good' sexual health?
8. How often do (or did) you use condoms? From where do (or did) you obtain (purchase) the condoms? Is there a specific brand or type of condom you prefer?

Views on HIV & STD Testing & CDC Recommendations for Routine HIV Testing

Segue: Medical doctors or physicians, nurse practitioners, or physician assistants often serve as primary health care providers for individuals...

1. What type of health care provider do you usually see about health issues? How often do you visit this health provider?
2. Do you consider this person your primary health care provider? Do you see the same health care provider about sexual health issues? If not, why do see separate providers?
3. How would you describe your relationship with your primary health care provider? Do you feel comfortable discussing sensitive health problems with your health care provider (e.g. STDs)? Why or why not?
4. Does your health care provider recommend you test for...
 - a. HIV? How often does he or she recommend you to test? How does he or she initiate the conversation?
 - b. STDs? How often does he or she recommend you to test? How does he or she initiate the conversation?
5. How comfortable are you discussing HIV (and STDs) with your health care provider? Why or why not?
6. Where (or where else) would you go if you wanted an HIV test? Why? And an STD test? Why?

Segue: Under current testing regulations, Illinois, and many other states require individuals to participate in a 20-minute counseling session before obtaining an HIV test. In addition, people in some states must sign a separate informed consent form, which details the risks and benefits of the test.

Views on HIV & STD Testing & CDC Recommendations for Routine HIV Testing cont.

7. What are your feelings about current HIV testing regulations?
8. What are your feelings about current opportunities (access & availability) to get an ...
 - a. HIV test? Please explain?
 - b. STD test? Please explain?
9. Under these regulations, how do (or would) you feel about receiving an
 - a. HIV test? Please explain?
 - b. STD test? Please explain?

Segue: In 2006, the CDC recently recommended HIV testing become a routine part of medical (clinical) care for all individuals 13-64 years of age in all healthcare settings (including hospital EDs, urgent-care clinics, inpatient services, STD clinics or other places offering STD services, tuberculosis clinics, substance abuse treatment clinics, other P.H. clinics, community clinics, correctional health-care facilities, and primary care settings). Requirements of written consent and pretest counseling for HIV testing would be dropped, and consent for HIV testing would be a part of patients' general informed consent for medical care. However, you would still have the option to decline HIV testing.

10. Would you accept or refuse it? Why or why not? Had you heard about this recommendation?
11. Would you be offended or find routine HIV testing discriminatory or stereotyping? Why or why not?
12. Do you feel HIV testing under these new recommendations would reduce the stigma associated with HIV testing?
13. How would you feel about receiving an HIV test as a part of your annual physical exam? Would you accept or refuse it? Why or why not?
14. Overall, what do you think about ...
 - a. HIV testing? Do you feel regular HIV testing is important to maintaining 'good' sexual health?
 - b. STD testing? Do you feel regular STD testing is important to maintaining 'good' sexual health?

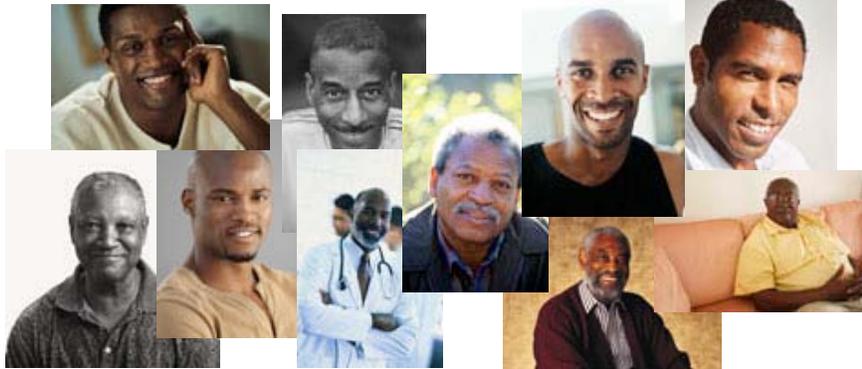
Suggestions on Increasing HIV & STD Testing among Hetero AA Men

1. What has or would encourage you to receive HIV testing? And STD testing?
2. What has or would prevent you from receiving HIV testing? And STD testing?
3. Whose advice would you consider in HIV testing? And STD testing? In what tone would you prefer to hear the message? In what place should the information be delivered?
4. Would you rather learn about HIV & testing in a group or individual setting? And STD testing?
5. What HIV testing campaigns are you aware of to increase HIV testing among African Americans? Did any these campaigns encourage you to get tested for HIV? If so, what about the campaigns encouraged (or prevented) you to get tested?
6. If you are developing a project /campaign to persuade heterosexual African American men to have regular HIV testing, what messages or decision aids would you use? How would you do it? If you are developing a project /campaign to persuade heterosexual African American men to have regular STD testing, what messages or decision aids would you use? How would you do it?

APPENDIX D

MALE SEXUAL HEALTH
PARTICIPANT RECRUITMENT FLYER

Looking for African American Men



*If you are a married or unmarried
African American male ,
living in the Champaign-Urbana area,
ages 18 - 44,
then we want to talk to you!*

**Participate in a 1-hour confidential discussion about
health issues for
African American Males**

**Volunteers will be paid \$30
For more information, please call 217-XXX-XXX**

This study is sponsored by:
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
Department of Kinesiology & Community Health
Survey Research Laboratory
505 East Green, Suite 3
Champaign, IL 61820

APPENDIX E

MALE SEXUAL HEALTH PARTICIPANT RECRUITMENT EWeek / EMAIL TEXT

My name is Regine Rucker. I am currently a PhD candidate at the University of Illinois at Urbana-Champaign (UIUC) in the Department of Kinesiology and Community Health. I am conducting a study on health issues among African American men, 18-44 years of age. I want to talk to you!

The interview is a confidential discussion and should take approximately 1-hour to complete. If interested, at your convenience, please call 217-XXX-XXX to determine your eligibility. If eligible, a convenient interview time will be scheduled. Questions can also be directed to Dr. Reginald Alston at (217) XXX-XXXX or alston@illinois.edu and Regine Rucker at (616) XXX-XXXX or rrucker2@illinois.edu. Volunteers will be compensated \$30 for their participation.

Thank you for your consideration.

Regine Rucker
Dr. Reginald Alston
UIUC Department of Kinesiology and Community Health