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HIV Testing Behaviors among Individuals Living in Atlanta Public Housing: An Analysis of the Relationship between Gender, Condom Social Norms, and Insurance Coverage

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Abstract

HIV Testing Behaviors among Individuals Living in Atlanta Public Housing: An Analysis of the
Relationship between Gender, Condom Social Norms, and Insurance Coverage

By Lawrence S. Young

The present study utilized Andersen's Behavioral Model of Health Services Use (2002) to determine if there was a relationship between gender, condom use social norms, insurance coverage and HIV testing. Because of the high rates of newly diagnosed HIV among low-income African Americans, initiatives that promote HIV testing to are being implemented for this "high risk group". Testing and early detection has been shown as an effective way to prevent high rates of transmission and get HIV positive individuals into care. A recent CDC analysis found evidence that 2.1 percent of heterosexuals living in high-poverty urban areas in the United States are infected with HIV (CDC, 2010). It is necessary to explore predictors of testing. Many studies indicated gender differences in rates of HIV testing. Gender was used as a predictor because the perception of the health needs of men and women can have a direct impact on policy and health interventions centered on HIV prevention and studies have shown that women have higher rates to testing than men. Literature also indicates that lack of health insurance can limit people's access to health care, and impact HIV testing rates. Little research has been done to investigate how social norms about condom use impact testing, but there is information about how some other social norms relate to HIV testing. Information for the secondary data analysis came from sample of (n=172) residents living in Atlanta Housing Authority (AHA) who were part of the Emory University Hope VI study. Data were analyzed using bivariate and multivariate procedures. Even though the results of this analysis were not significant, the data did support findings in the literature. More women in the sample got tested than men, which is consistent with findings from the CDC and other studies of African Americans who live in public housing. The participants in the sample had high rates of HIV testing which was similar to other studies using similar samples when compared to other studies that looked at lifetime testing rates. It is important that more research is done to have a better understanding of how to promote HIV testing to at risk populations, and make testing for HIV more accessible to these groups.

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Table of Contents

Introduction

The Housing Opportunities for People Everywhere (HOPE VI) initiative was enacted to revitalize and improve the poorest public housing projects to provide better housing options for the residents of these communities. The original public housing complexes are redesigned and replaced with mixed-income housing. HOPE VI can take multiple forms, including demolishing the original housing and relocating residents, and also simply renovating the existing housing. A primary goal of this initiative was that the residents will be able to relocate to less impoverished, safer areas of the cities they live in. Problems associated with poverty such as crime, low-income, and poor health would be lessened or eradicated (Popkin & Katz, 2004).

Studies have shown that people who have low-income are more likely to be negatively impacted by HIV. A report from the Centers for Disease Control and Prevention (CDC) found that 2.1 percent of heterosexuals living in high-poverty urban areas in the United States are infected with HIV. Individuals living with low SES often deal with limited health care access, which can reduce utilization of HIV testing and prevention services. Also, the CDC reports that these communities have high rates of substance abuse, which can increase sexual risk behavior (CDC, 2010).

HIV testing is important to reducing the spread of HIV and to getting HIV-positive individuals appropriate care. The CDC recommends that voluntary HIV testing should be included as a ‘‘routine part of medical practice” (CDC, 2010 p. 2). Many individuals, once aware of their HIV infection, reduce risky sexual behaviors with partners who are not infected and get into HIV care. (Marks, 2005). HIV testing rates

vary by state, age, and race/ethnicity. African Americans and Latinos are more likely to report having been tested for HIV than Whites. (CDC, 2010).

Anderson's Behavioral Model of Health Care Use (BMHCU), which theorizes that health care use and individual health outcomes are driven by predisposing characteristics, enabling resources, and perceived need will be used to explore some factors associated with HIV testing among individuals living in public housing projects studied by the Emory University HOPE VI study.

Literature Review

HIV and African Americans

Research indicates that African Americans suffer more from the harsh effects of HIV than any other racial/ ethnic group in the United States. The Centers for Disease Control and Prevention reported that in 2007, African Americans accounted for 46% of people living with a diagnosis of HIV infection, and accounted for 45% of the cases of new HIV infection in the US. By comparison, the rate of new HIV infection for Black men was 6 times as high as that of White men, nearly 3 times that of Hispanic/Latino men, and twice that of Black women. The rate of new HIV infection for Black women was nearly 15 times as high as that of White women and nearly 4 times that of Hispanic/Latina women (CDC, 2010).

These estimates of HIV prevalence among African Americans are similar to, and in some cases exceed, population-based estimates of HIV seroprevalence among adults, aged 15–49 years, reported by several countries in sub-Saharan Africa, Asia, and the Caribbean. Even though individual-level personal behaviors transmit HIV, these individual behaviors do not fully explain racial disparity in HIV infection prevalence, incidence, and mortality rates (UNAIDS, 2007).

Research should be done to better address and understand relationships between the social, community, financial, and structural factors that place many African Americans at higher risk and delay access to prevention and adequate health care. The structural issues associated with low socioeconomic status/poverty, limited access to quality health care and housing, and HIV prevention education, can directly and indirectly increase the risk for HIV infection and affect the health of people living with HIV (CDC, 2010).

HIV Testing Among African Americans

HIV testing is important to reducing the spread of HIV and to getting HIV-positive individuals appropriate care. The CDC recommends that voluntary HIV testing should be included as a ‘‘routine part of medical practice” (CDC, 2010, p. 2). Most individuals who have been tested for HIV are tested in medical settings (CDC, 2003). Many individuals, once aware of their HIV infection, reduce risky sexual behaviors with partners who are HIV-negative. Also, awareness of being HIV positive is likely to prompt the individual to get into proper HIV care services, which can decrease the likelihood of HIV related mortality. A study found a 68% reduction in the prevalence of unprotected intercourse among HIV-positive persons aware of their status compared with HIV-infected persons unaware of their HIV status (Marks, 2005). Persons who are unaware of their HIV serostatus may unknowingly contribute disproportionately to the number of new transmissions and delay them from getting into the proper HIV care programs. The CDC funds many different projects that promote HIV testing for African Americans. Some are rapid HIV testing programs in historically black universities, and social marketing advertisements that target African Americas that promote HIV testing (CDC, 2010).

The CDC reported that in 2006, about 40% of Americans aged 18-64 reported that they had been tested for HIV at some time in their lives. By 2009, that percentage had grown to 45%. It was also estimated that 40% of men and 50% of women aged 18-64 reported that they had been tested. Even though 45% of newly diagnosed cases of HIV were African American, only about 3 in 5 (this is higher than the general population estimate of 45%-50%) of African Americans reported that they have ever been tested (CDC, 2010). Because of the high rates of HIV in the African American community, in 2007 and 2008, CDC invested $70 million in a new initiative devoted to increasing HIV testing, primarily among African Americans. great

In the *Weekly Morbidity and Mortality Report*, it was reported that African American patients were 1.8 times more likely than white patients to be diagnosed late in the course of HIV disease progression (CDC, 2003). Furthermore, among African Americans, as in the population overall, men are less likely than women to have contact with the healthcare system. It is important to note that having any healthcare encounter, for example having a primary care doctor recommends an HIV test, were all associated with the patients being tested for HIV (Petroll, 2008).

HIV Testing and Low Income

Individuals who live in public housing typically have a low income, and limited access to adequate health care and health services that meet their needs. Evidence supports that they suffer from more from the effects of HIV that other groups. A recent CDC analysis found evidence that 2.1 percent of heterosexuals living in high-poverty urban areas in the United States are infected with HIV (CDC, 2010). This analysis suggests that many low-income cities across the United States now have a generalized HIV epidemic, as defined by the United Nations Joint Program on HIV/AIDS (UNAIDS,

2007). UNAIDS defines a generalized epidemic as one that is established in the general population, with an overall HIV prevalence in the general population of more than 1 percent. Data were derived from the Behavioral Risk Factor Surveillance Survey (BRFSS). Poverty is the single most important demographic factor associated with HIV infection among inner-city heterosexuals. Prevalence of the condition was high in those with the lowest socioeconomic status. There were no statistically significant differences in HIV prevalence by race or ethnicity in these low income urban areas. However, the prevalence was 2.1 percent among blacks, 2.1 percent among Hispanics, and 1.7 percent among whites (CDC,2010).

The authors of this report note that other factors associated with poverty also likely contribute to high HIV prevalence in these settings. Individuals living with low SES often deal with limited health care access, which can reduce utilization of HIV testing and prevention services because of the cost associated with these services. Also, the CDC reports that these communities have high rates of substance abuse which can increase sexual risk behavior. High rates of incarceration are present, and this factor can directly disrupt the stability of relationships (CDC, 2010).

Poverty disproportionately affects African Americans. Poverty influences where one lives, can lead to constant housing relocation, low healthcare access, poor health services, unstable relationships; all of these influences can affect sexual networks. Widespread residential segregation by race is a factor that keeps poverty in specifically concentrated areas. Adverse social structures and little economic influence among blacks increases and maintains their risks of low socioeconomic status (Adimora, 2009).

Gender and HIV Testing

Data from the Kaiser Family Foundation 2009 Survey of Americans on HIV/AIDS analyzed African Americans' reported views and experiences with the HIV epidemic. The report presented some findings about gender differences in testing. The data showed that 43% of the African American men in the sample reported getting tested every year compared to 46% of women. Twenty-nine percent of African American men reported that their doctor/ health care provider suggests that they get tested for HIV compared to 21% of women. Another interesting finding dealt with intimate partners and their involvement in the decision to be tested. The study reported that 12% of men in the sample said that a partner asked that they get tested for HIV compared to 4% of women (Kaiser Family Foundation, 2009).

A report that used data from the BRFSS found that women (41.7%) were more likely to have an HIV test than men (37.3%). The researchers also found that individuals in the sample who had an HIV test at a doctor's office were more like to be African American women aged 25-44 and un-married. African Americans who had an HIV test at a clinic were more likely to be women, to between then ages 18 and 34, and to have a high school education (Rountree, 2009).

A study that researched gender differences in HIV testing among urban youth found in a multivariate analysis that ever having an HIV test was associated with being female, being African-American, and ever having a Sexually Transmitted Infection (Ompad, 2002). Having a better understanding of the gender differences in HIV testing are important for current research. The perception of the health needs of men and women can have a direct impact on policy and health interventions centered on HIV prevention.

Condom Use Norms and HIV Testing

Epidemiologic studies that compare rates of HIV infection between condom users and nonusers who have HIV-infected sex partners demonstrate that consistent condom use is highly effective in preventing transmission of HIV (CDC, 2011). Many researchers identify inconsistent condom use as a measureable behavior that can increase an individual's risk for contracting a sexually transmitted infection. A study found that negative attitudes toward using condoms were associated with reporting a greater number of sex partners (Bogart & Thornburn, 2005).

The Indiana University National Sex Study published a report that shows that African-Americans are more likely than other ethnic groups to use condoms, as well as the most likely to be tested for HIV. The report also indicated gender differences in condom use among African Americans. Women ages 18 to 24 reported that 55.3 percent of their sexual encounters involve condoms. Black men in indicated that condom use occurs in only 20.5 percent of their sexual encounters (Reece, 2010). This is important because clear gender differences in condom use should be included in HIV interventions. Even though the study authors did not further investigate this idea, it is possible that social norms could have had an impact on the difference in the rates of condom use among the men and women in the sample.

Little research has been done to investigate how social norms about condom use impact testing, but there is information about how social norms influences perceptions of HIV testing, For example, a report from the Kaiser Family Foundation found that seven percent of African Americans in their sample say if they were to be tested for HIV, it would make no difference in how people they know think of them. The study asked questions to investigate the participant's perception if getting tested for HIV would lead

to stigma. It was found that 19% of the participants believed that the people they know would think more of them if they found out they were tested.

A study that researched the attitudes toward HIV testing among Chicago Housing Authority Residents found that two thirds of sexually active respondents reported condom use in the past year. Three quarters reported previous testing for HIV, and 90% of those tested returned for results. It was also reported that 62% of study participants used condoms the past 12 months, and among this group, 63% of the participants used this method during every single episode of sexual contact during the past year. Three quarters reported having had HIV testing in the past. However, 12% of the respondents refused HIV testing when it was offered to them.

An association between individuals who chose not to use condoms during sexual intercourse and chose not getting an HIV test was not made. The article authors support the idea that future studies of populations living in inner-city public housing should inquire about reasons for noncondom use. This research could contribute investigating the possible association between the behavior of noncondom use and HIV testing (Djokic, 2010).

Peer social norms are an important part of sexual behavior interventions. Researchers have found that social norms can influence sexual behaviors, and people make decisions based on their perceptions of peer group behaviors (Lyles, 2007). A meta-analysis found that significantly greater efficacy was found among interventions that addressed social norms toward safer sex compared with interventions that did not address these factors. All of these interventions included in the analysis focused on lessening the sexual risk behaviors among African American heterosexuals (Darbes,

2008). Since condom use is an important protective sexual behavior, research that seeks to understand how the social norms about condom use that may influence HIV testing is important.

Insurance Coverage and HIV Testing

It was previously mentioned that the CDC recommends routine HIV testing in health care settings (CDC, 2010). Testing is emphasized because early diagnosis HIV infection in people who are currently unaware of their serostatus will ensure that a greater percentage of people with HIV are receiving appropriate care. Also, it will lessen the likelihood that individuals who are HIV positive will unknowingly spread the virus to other people (CDC, 2010).

Lack of health insurance can limit people's access to health care. Approximately two-thirds of the US population are privately insured, either through employer-sponsored coverage or private (i.e., nongroup) health insurance. The remaining third rely on publicly funded coverage, including Medicaid, Medicare, and the State Children's Health Insurance Program, or are uninsured (Kates & Levi, 2007).

In the United States, the percentages of black persons and Hispanic persons with private insurance were lower than the percentage of white persons with private insurance, with correspondingly higher reliance on public funding (Urban Institute, 2008). This difference is greater among people with HIV/AIDS. Among HIV-infected patients receiving care, more black patients, Hispanic patients, and women relied on public-sector coverage, particularly Medicaid, than did white patients and men (Kates, 2007)

Employment levels also affect insurance coverage. The majority (62%) of HIV-infected individuals receiving care are unemployed, and nearly half (45%) have annual incomes less than $10,000, compared with rates of 5% and 8%, respectively, in the

general population. These statistics demonstrate the barriers people with HIV/AIDS face in accessing or paying for care and may inform strategies for reaching them and enhancing their access to treatment (Kates, 2007). It is difficult to make a direct association between insurance coverage and HIV testing, but the previous literature supports that not having health insurance can create a barrier to receiving adequate health services. There is a possibility that receiving an HIV test may be one of the services not received.

Hope VI Housing Relocation Initiative

Atlanta, Georgia, like other cities in the United States, has become a part of the Housing Opportunities for People Everywhere (HOPE VI) Program. The project began in 1992 and was designed to impact public housing policies and urban redevelopment. Severely distressed public housing projects, occupied exclusively by low income families, are redesigned and replaced with mixed-income housing. HOPE VI can take multiple forms, including demolishing the original housing and relocating residents, and also simply renovating the existing housing. Housing vouchers are used to enable the original families and residents to rent other apartments in other areas. HOPE VI has greatly influenced the way The Department of Housing and Urban Development's (HUD) provides assistance to the poor and underserved (Popkin, 2004).

The program's stated objectives were as follows:

"● to improve the living environment for residents of severely distressed public housing through the demolition, rehabilitation, reconfiguration, or replacement of obsolete projects (or portions thereof);

● to revitalize sites on which such public housing projects are located and contribute to

the improvement of the surrounding neighborhood;

● to provide housing that will avoid or decrease the concentration of very low-income families; and

● to build sustainable communities" (Popkin, 2004 p.2)

The Atlanta Housing Authority (AHA) is responsible for carrying out HOPE VI relocations in Atlanta. This organization, developed under state law, assists in the development and acquisition of affordable housing for nearly 50,000 individuals in the Atlanta area. AHA is the largest public housing agency in Georgia and one of the largest in the nation. In 1996, AHA created the financial and legal model for mixed-income, mixed-finance transactions that include public-assisted housing as a component. This model is used by the U.S. Department of Housing and Urban Development's HOPE VI revitalization program. In Atlanta, it has resulted in six new mixed-income communities, with three more in the predevelopment phase (www.atlantahousing.org). Seven of the relocating AHA communities in the Atlanta area were included in this research.

Research and data from other cities that were a part of the HOPE VI initiative found that individuals in public housing in general have poor health. A study reported that HOPE VI relocators are much more likely to describe their health as fair or poor than other adults overall. These negative self-reported health ratings are an important public health concern because they are predictive of morbidity and mortality. This population has been identified at high risk for serious health problems (Manjarrez, 2007). HIV has harshly affected people in low income populations. Testing and early detection has been shown as an effective way to prevent high rates of transmission. The participants included in the sample are considered a "high risk" group for contracting HIV. It is

necessary to explore their experiences with testing. The data included in the analysis were taken before the participant's relocated.

Theory: The Behavioral Model of Health Services Use

The Behavioral Model of Health Services Use stresses contextual or community variables to predict behaviors that are related to health service use. The model identifies factors associated with of service use with use of three different components, which includes predisposing characteristics, enabling resources, and perceived and evaluated need. Predisposing characteristics include demographic characteristics (age, gender, race, marital status, education). Enabling factors (i. e., income level, social support, availability of care) are social factors thought to play a role in access to care. Perceived need, or illness level, is the judged severity of illness on the part of the patient and evaluated need is defined as professional judgment about patients' health status (Andersen, 2002).

For the current data analysis specific components of the model will be used. Gender will be considered a predisposing characteristic. The enabling factors are health insurance status and condom use norms. Perceived need is not included in the data analysis, though individuals who previously tested positive were not included in the analysis, and the CDC recommends that high risk individuals get tested routinely. The health service utilized is getting an HIV test in the past year.

Research Purpose

The purpose of this thesis is to assess the HIV testing behaviors of individuals living in low income housing, and the relationship between possible factors associated with the outcome of HIV testing. A sample of residents living in Atlanta Housing Authority (AHA) housing was asked questions about their health and recent HIV testing

experience. Since the high prevalence of HIV diagnosis and AIDS related mortality are known about populations with similar demographic characteristics, and emphasis on the importance of testing/early identification is known, this research seeks to assess the factors that are associated with being tested for HIV. It is important to know the environmental and social difficulties these individuals face when attempting maintain healthy lifestyles.

Research Questions

1) Are there gender differences in HIV testing behavior?
2) Are social norms about peer condom use associate with recent HIV testing behaviors?
3) Is having health insurance associated with getting an HIV test in the past year?

Methods

Sampling Plan

This research sought to study a sample of high risk African American Atlanta Housing Authority (AHA) residents. Quota sampling was used to create a sample that was diverse in regard to participants' alcohol and other drug (AOD) use status at baseline. A sample made up of 25% AOD dependent, 50% AOD abusing but not dependent and 25% not abusing AOD. Social networks and peer recruiting was an important part of the sampling plan, in order to obtain an adequate sample of these individuals.

Sampling Strategy

To develop a cohort, two levels of sampling were used: sampling AHA communities and sampling residents of these communities. Seven AHA communities were identified by city officials and targeted for relocation in Atlanta. All seven housing

communities were included in the analysis. The different strategies to develop the sample of residents within these seven communities included:

1) Having a consistent presence in the community. Recruitment was done at each housing community several times a week.
2) Coverage of different time periods. At each housing community, recruitment was done on evenings and weekends to ensure that residents with different activity patterns were reached.
3) Recruiting at social gatherings. Meetings were held where food was provided, residents could socialize with each other, and learn more about the research study. Recruitment took place at these events as well.
4) Partnerships with local organizations. Recruitment was done at Churches, School, and Health Centers in the different communities.
5) Peer recruitment. Individuals in the study were encouraged to recruit eligible study participants.

A sample that is between 5 and 15% of the total adult population in each AHA housing community was obtained.

Eligibility Criteria

To enroll in the study, potential participants met the following criteria:

1) Identify as Black or African American
2) Be 18 years old or older
3) Live in one of the 7 relocating AHA housing communities
4) Have been sexually active in within the last 12 months
5) Speak English fluently

6) Participants could not be in the same family.

*People who knew they were HIV positive were excluded from the current data analysis.

Measures

Participants were given a survey that asks questions about health, health service use, relationships, sexual behaviors, drug use, experiences in their neighborhood, and exposure to violence. The specific constructs that were relevant to this study were HIV testing, gender, perceived peer norms around condom use, and types of insurance coverage utilized by the participant.

Variables Created

HIV testing was assessed through a survey question "Have you had an HIV test in the last year?" The participant indicated yes or no. Gender was assessed by a survey question that asked if the participant was a man, a woman, Transgendered: male to female, or Transgendered: female to male

Social norms about condom use were assessed using a combination of different survey questions. The responses to the following survey questions were summed and each participant was given a score for analysis. The men and women in the sample were given separate questions in the survey instrument. Reliability for the questions used in this measure was found to be good at .991 for men and .90 for women (Wingood, 1998)

(For men)

1) Most of my closest men friends use condoms when they have sex.
2) Using condoms is viewed by my closest men friends as the right thing to do.
3) My closest men friends will say "no" to sex if a partner won't use a condom.

4) My closest men friends will talk about condoms with their partner.

(For women)

1) Most of my closest women friends use condoms when they have sex.
2) Using condoms is viewed by my closest women friends as the right thing to do.
3) My closest women friends will say "no" to sex if a partner won't use a condom.
4) My closest women friends will talk about condoms with their partner.

**All questions were assessed using a Likert Scale.*

Answer choices

strongly agree =0

agree =1

neither agree nor disagree (neutral) =2

disagree =3

strongly disagree = 4

Health Insurance Status was created by combining the people who have Medicare, Medicaid and Private Health Insurance. The values were then recoded into dichotomous "yes" and "no" variables. If a participant had at least one of the forms of insurance coverage (Medicare, Medicaid, and/or private health insurance) this was coded as "yes", and if they had none of the forms of insurance coverage, this answer was coded as "no".

The age variable was self- reported by the participants in the sample. Marital status was assessed by the participants indicating answers to the choices of Single, Legally Married, Informally Married/Living Together, Separated, Divorced, and Widowed. The alcohol and drug dependency variable was also self-reported by the participants.

Data Analysis

Descriptive statistics were used to describe the distribution of values for each variable across the sample. For dichotomous variables, the frequency was reported. For the continuous variable, the mean and the standard deviation was reported. The bivariate relationship between each dichotomous variable and the outcome variable was explored using the chi square test. The relationships of health insurance and of gender to HIV testing were assessed using a Chi-Square statistical test. An Independent samples t-test was used to assess the relationship between Condom Social Norms and HIV testing. The multivariate relationship was assessed using a logistic regression with the all the independent variables and the outcome variable of HIV testing.

Results

Sample and Study Variable

There were 172 participants in the study. However, only the participants who reported that they had not diagnosed with HIV (157 [91.3%]) were included in data analysis, which included 90 women (57.3%) and 67 men (42.7%). The mean age of the sample was 42.8 (sd=14.2). Most of the participants, 98 (62.4%), were single and never married.. Also, there was a high unemployment rant among the sample,136 (86%).. The frequencies for insurance coverage showed that 61 (38.9%) had no insurance coverage. By design, there was a high rate of alcohol and drug abuse and dependency in the sample. Over half, (84%) of the sample reported that they abuse used alcohol and drugs. Also, 21% of the sample reported that they were dependent on alcohol and drugs when they took the survey (Table 1).

Bivariate Analysis

A Chi Square test was used to assess the relationship between gender and HIV testing. There was no significant relationship between those two variables (χ^2=.255; df =1; p= .635). Next, an independent t-test was used to assess the relationship between condom use social norms and getting HIV testing. No significant difference was observed between those who got an HIV test in the past year and those that had not gotten a test (t = 1.054, df= 134, p =.29). A Chi Square test was used to assess the relationship between insurance status and getting an HIV test in the past year. There was no significant relationship between insurance status and getting an HIV test among the participants in the sample (χ^2=.528; df =1; p= .47) (Table 2).

Multivariate Analysis

Finally, a logistic regression was used to assess the relationship between all three independent variables and the outcome variable of HIV testing, controlling for possible confounders. The relationship between the outcome variable of HIV testing was included in a logistic regression with the independent variables of gender, insurance coverage, and condom social norms. Other covariates included in the model were Marital Status, Age, House Hold Income, Sexual Orientation, Alcohol and drug abuser, and Alcohol and drug dependency were also included in the model. The relationship between gender and testing was not significant in the model (B=0.196, p=.631, odds ratio =1.216). For insurance coverage the relationship was not significant in the model (B =-0.406, p =0.303, odds ratio=1.501). For condom social norms the relationship was not significant B=-0.038, p =0.517, odds ratio=0.963). When the new covariates were included in the model, all of the results were not significant.(Table 3)

Discussion

HIV testing is an important component when attempting to lessen the harsh effects of the illness. Knowledge of one's HIV status is important for preventing the spread to other un-infected individuals. The participants of the HOPE VI study are a part of a group that are at high risk of contracting the illness, and are less likely to receive adequate care. It is important that more research is done to have a better understanding of how to promote HIV testing to at risk populations, and make testing for HIV more accessible to these groups. Ideally, testing provides an opportunity for people to receive counseling and information to reduce the chances of transmitting the virus to others by modifying existing behaviors.

It is important to note that HIV testing, in the past year, was high among the sample. This was similar to CDC reports of high levels of testing among African Americans. It should also be taken into account that the data presented in the literature review referred to lifetime testing, but the data in the current analysis used rates of testing in the past year. The high rates of testing among the sample suggest that the participants rates of testing higher that other samples. Other studies indicated similarly high results when comparing testing of African Americans to other racial/ethnic groups living in the United States. Future studies should investigate the reasons why African Americans get tested more than other groups, and how this impacts HIV prevention efforts.

Investigating gender differences in HIV testing are important for intervention strategies and programs. Women and men face different factors that impact their roles in HIV transmission. For example, 70% of new HIV infections each year occur among men, women are twice as likely as men to become infected with HIV from vaginal sex, and most HIV-positive women are infected through high-risk heterosexual sex (CDC,

2010). Knowing and understanding these statistics can influence ones perception about their own levels of risk, and influence the rates of testing. Among the sample, used in the data analysis, 48 (54.5%) women said yes to having an HIV test in the past year compared to 40 (45.4%) men who reported that they had been tested. This was similar to that of the Kaiser study where the data showed that 43% men in the sample reported getting tested every year compared to 46% of women. An interesting finding in the previous sample, and the sample used in the current data analysis was that more women were tested than men. Even though both of the studies did not attain statistical significance between the testing rates for women and men, this is still important information for future research and possible interventions. It is optimal that there is not a large difference in the testing rates across genders in where men were less likely to get tested because they are more likely to be positive, and this could negatively impact infection rates for women.

Insurance coverage is an important factor in the role of health care and the utilization of health care services. Among low income groups the CDC recommends that HIV testing be offered in all high HIV-prevalence clinical settings, to those at risk for HIV in low HIV-prevalence clinical settings (CDC, 2010). The majority (61.6%) of the participants in the sample reported having some form of health insurance coverage. The analysis did not assess where, specifically, the study participants obtained the HIV test. However, the questions of affordability of medical services, including HIV testing, is important to understanding if a barrier to testing is impacted by lack of adequate insurance coverage.

If the data used in the analysis were generalizable to the population of African Americans living in low income housing, insurance coverage not having an impact on rates of testing is a positive finding. This would mean that the services that the health services provided for individuals living in low income housing promotes and makes HIV testing an affordable service. Arguably, insurance coverage was not a barrier to receiving health insurance because many on the participants in the sample had health centers and clinics at very accessible locations in their neighborhoods. Some even had clinics inside their actual residential common areas. In future studies, more research should be done on the construct of insurance coverage and testing.

Little research has been done on how condom use norms impact HIV testing. Work has been done to assess risky sexual behaviors and lack of condom use during sexual encounters is often included on instruments that assess these behaviors. The current data analysis assessed the perception of friends/members of peer group's feelings about condom use. Many HIV prevention programs include the use peer leaders to capitalize on the relationship that people have with peers and close friends with the goal of promoting safer health behaviors (Noar, 2007). Having an "acceptable" opinion from peers has been found to impact some behaviors related to HIV testing. If this research is done with another sample, it is important to address these variables more directly to determine how the participants who live in public housing view the sexual health behaviors of their peers.

Limitations

One of the main limitations of the analysis was the use of secondary data. The data collected in the HOPE VI project covered many different topics such as alcohol/

drug use, neighborhood experiences, exposure to violence, and sexual behaviors. HIV testing was only assessed though two specific questions that inquired about individual testing rates during six months and one year before the survey was given. true Information about where people go to get tested would be helpful in future research. yes Also, what direct factors promote testing for these individuals and their peers should be investigated. great Things like advertisements, availability of clinics, or doctors directly offering test should be assessed. Questions that inquire about HIV testing knowledge could be included to determine if this has any relationship to study participants receiving an actual HIV test. This would help to understand if people have an understating of the protective implications of testing.

Since the data was originally collected for other purposes, the current analysis was unable to include confounding factors and other variables that may have affected the relationship between the three study variables and HIV testing. This variable should be investigated more directly in future research to assess the relationship between the perception of friends' risky sexual behaviors and HIV testing. Another limitation was the cross sectional nature of the study. Data from the first wave of interviews were used in the analysis. Bias may have been introduced though some participants not being able to accurately recall past events. The research is based heavily on the causal order of events. HIV testing may influence their perceptions about their friends/peer condom use norms. It is likely that gender and insurance status will not be affected by the relationship.

Clustering was another issue among the sample. Since all the participants were residents of public housing communities in Atlanta their answers to survey questions and health behaviors were likely to be similar. In a future analysis a more sophisticated use of

generalized estimating equations for clustering and multilevel modeling should be used to address for this factor and adjust the standard errors to account for clustering within public housing communities. .

Conclusion

This data analysis was heavily influenced by the CDC recommendation for a more widespread HIV testing initiative, especially among individuals viewed as "high risk" in the United States. Because much emphasis is placed on testing, it is important that policy makers and researchers know more efficient ways to promote testing and encourage knowledge or HIV status. More research on the elements that affect and impact testing should be explored.

The variables included for the Andersen's Model of Health Services Use were not applicable to the participants in the sample. However, with more specific questions to assess the concepts that the data analysis attempted to assess, the model could be used in future research. For example, if further research assessed the predictors of HIV testing more thoroughly, including things such as knowledge about testing and awareness of different testing locations, this would be useful to the model. Also, including the perceived need portion could arguably help the model assess the utilization of HIV testing services.

Even though the sample is not generalizable to the overall population, the current data analysis presents factors that can impact testing in communities that are at high risk for HIV. The results of this data were not statically significant, but the literature review identifies research that supports the disparity in HIV incidence for African Americans. Even those they have high rates of testing, they also have a high incidence of new cases.

Future research should attempt to understand the factors associated with HIV testing to increase testing rates. This may help identify these individuals who are infected and lessen the chance that they will spread HIV to others. The earlier positive individuals are identified action can be taken to improve their health outcomes.

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Table 1. Demographic Characteristics of Participants in the Emory University HOPE VI. Study

	N	(%) or median (range)
Gender		
Female	90	(57.3%)
Male	67	(42.7%)
Marital Status		
Single	98	(62.4%)
Legally Married	7	(4.5%)
Informally Married/Living Together	7	(4.5%)
Separated	7	(4.5%)
Divorced	28	(17.8%)
Widowed	9	(5.7%)
Age		(18-72) SD= 14.2
Household Income		
2500	51	(32.5%)
7500	56	(35.7%)
12500	20	(12.7%)
17500	11	(7.0 %)
22500	5	(3.2 %)
27500	2	(1.3%)
32500	3	(1.9%)
37500	3	(1.9%)
42500	1	(.6%)
52500	1	(.6%)
Lesbian, Gay, or Bisexual		
Yes	12	(7.6%)
No	145	(92.45)
Alcohol/ Drug Abuser		
Yes	87	(55.4%)
No	63	(40.1%)
Alcohol/ Drug Dependent		
Yes	33	(21.0%)
No	117	(74.5%)
Insurance Coverage		
Yes	96	(61.6%)
No	61	(38.9%)

Table 1. cont.

Condom Social Norms		5.0 (0-16)
HIV Test In Past Year	84	(53.5%)
Yes	73	(46.5%)
No		
Public Housing Community	22	14%
Bankhead Homes	24	15.3%
Thomasville Heights	14	8.9%
Bowen Homes	20	12.7%
Hollywood Court	22	14%
Herndon Homes	34	21.7%
Palmer House	21	13.4%
Roosevelt House		

Table 2. Bivariate Analysis for Variables Related to HIV testing (Gender, Insurance Coverage, and Condom Social Norms) for the Participants in Emory University HOPE VI. Study

	Coefficient	p-value
Gender	χ^2=.255	.635
Insurance Coverage	χ^2= .528	.47
Condom Social Norms	t =1.054	.29

Table 3. Logistic Regression model for Variables related to HIV testing for Participants in the Emory University HOPE VI. Study

	Coefficient	Odds Ratio	p- value
Gender	.196	1.216	.631
Insurance	.406	1.501	.303
Condom Social Norms	-.038	.963	.517
Marital Status	-.187	.829	.124
Age	-.012	.988	.418
Household Income	.000	1.000	.971
Lesbian, Gay, Bisexual	.769	2.158	.366
Alcohol/ Drug dependent	.139	1.149	.807
Alcohol/ Drug abuser	-.076	.927	.871