

# **Public Health Management Corporation**

## **Annual Progress Report: 2009 Formula Grant**

### **Reporting Period**

July 1, 2010 – June 30, 2011

### **Formula Grant Overview**

The Public Health Management Corporation received \$21,969 in formula funds for the grant award period January 1, 2010 through June 30, 2011. Accomplishments for the reporting period are described below.

### **Research Project 1: Project Title and Purpose**

*The Impact of Masculinity Ideals on HIV Risk among Black and White Bisexually-Active Men -*  
The overall purpose of this project is to increase the current understanding of how contextual factors such as ideals of masculinity may contribute to HIV risk among Black and White men who have sex with men and women (MSMW). This project will utilize existing data gathered from 346 Black and White MSMW in Philadelphia to examine the relationship between masculinity ideals and sexual behaviors that may increase risk for HIV infection or transmission among MSMW and their partners. This project will examine the differential impact of masculinity ideals for Black and White men and examine how other factors such as internalized homophobia and history of marriage may moderate the impact of masculinity ideals on HIV risk. These findings will help guide HIV prevention messages for these populations.

### **Duration of Project**

1/1/2010 – 6/30/2011

### **Project Overview**

While the HIV epidemic in the United States has severely impacted all men who have sex with men (MSM), the highest HIV rates are among Black MSM. Black MSM are more likely than other MSM to identify as bisexual and report sex with women and are less likely to disclose their same-sex behavior. Social norms around gender roles and masculinity, particularly in Black communities, may preclude some men from disclosing same-sex behaviors. It is important to understand how contextual factors such as masculinity ideals may influence HIV risk among MSMW. The overall objective of this project is to further our understanding of the impact of masculinity ideals on sexual behaviors known to increase risk for HIV infection and transmission. Examining data collected from Black and White MSMW will help to identify racial differences in the association between masculinity ideals and HIV risk. The findings from this project will promote the development of more effective, culturally tailored HIV interventions and prevention messages for MSMW.

The specific aims of this project are to:

1. Examine levels of masculinity ideals and patterns of sexual risk among Black and White MSMW.
2. Examine potential correlates of masculinity ideals, including internalized homophobia and history of marriage among Black and White MSMW.
3. Compare Black and White MSMW regarding levels of masculinity ideals, sexual risk, internalized homophobia and history of marriage.
4. Assess the differential impact of masculinity ideals on sexual risk behaviors for Black and White MSMW, accounting for factors such as socio-demographic variables (i.e., age, socioeconomic status), internalized homophobia, and history of marriage.

The methods for achieving these aims will involve the secondary analysis of existing data collected by PHMC from December 2007 through June 2008 from a sample of 346 Black and White MSMW who participated in a study funded by the Centers for Disease Control and Prevention entitled Using Respondent-Driven Sampling to Reach Black and White Bisexually-Active Men. This cross-sectional study collected comprehensive information from men on a number of important dimensions, including socio-demographic characteristics, physical and psychosocial health, HIV status, sexual practices, substance use, and disclosure of sexual behavior.

### **Principal Investigator**

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### **Other Participating Researchers**

None

### **Expected Research Outcomes and Benefits**

Studies suggest that nearly 1 in 2 Black MSM may become infected with HIV in their lifetime. In addition, with the exception of Black men, the HIV prevalence rate for Black women is greater than the rate for all other subgroups. Considering that the primary mode of HIV infection among Black women is sex with a man, and that Black MSM are more likely than MSM of other racial or ethnic groups to report sex with women and less likely to disclose their same-sex behavior, there is an urgent need to understand the factors that increase Black MSMW's risk for HIV infection and transmission. Few studies have focused specifically on this population. The proposed project will produce new findings on the link between contextual factors such as

masculinity ideals and sexual behaviors that increase men's HIV risk. The inclusion of White MSMW provides an opportunity to examine racial differences in masculinity ideals and sexual risk for HIV, and the findings from this project will help to tailor future interventions and messages to reduce the HIV risk of MSMW and their sexual partners. The key product that will result from this project will be a manuscript published in a peer-reviewed journal that will facilitate the sharing of important information about ideals of masculinity and HIV risk behavior among Black and White MSMW.

## **Summary of Research Completed**

During this reporting period, activities included a) completion of a literature review of previous research on the link between masculinity and sexual risk for HIV; b) refinement of the study sample; c) descriptive, bivariate, and multivariate analyses; and d) preparation of a manuscript summarizing the findings of these analyses to be submitted for publication in a peer-reviewed journal.

### Literature Review

A review of the literature on masculinity and internalized homophobia as well as the association of these and related contextual factors with HIV risk among Black MSMW was completed during this reporting period. For example, the literature revealed the paucity of research conducted specifically with Black and White MSMW. The few studies that have been conducted highlight the importance of culturally- and contextually-specific factors that may influence MSMW's HIV risk behaviors. The literature on Black masculinity described how Black masculinity in the United States has been constructed in response to the historical experience of racism and slavery, and has been constructed in hypermasculine terms. Hypermasculinity refers to the exaggeration of traditionally masculine traits, extolling male physical strength, aggression, violence, competition, dominance, and sexual prowess, while lack of these characteristics is seen as weak and feminine. The literature review also suggested that hypermasculine ideals among Black men are associated with higher rates of multiple sex partners and an aversion to using condoms. The literature on homophobia showed how the need to exhibit a masculine public persona, social pressures to establish a family, and pressures to conform to social and sexual norms may lead to internalized homophobia as well as behaviors that may increase men's risk for HIV and may prohibit expressions of non-heterosexual identities and behaviors.

### Study sample

The original dataset being used for this study includes survey responses from 346 Black and White men who have sex with men (MSMW), including men who self-reported being HIV-negative, HIV-positive, or HIV-status-unknown (includes men who have never been tested and men who did not know the result of their last HIV test). Research has shown that individuals reduce their HIV risk behaviors upon finding out they are infected with HIV. Since the focus of this study is to the link between contextual factors and HIV sexual risk behaviors, 63 men who self-reported knowing they were HIV-positive were excluded from the sample. Of the 346 total cases in the original dataset, 283 cases are included in the sample for this study.

### Data analysis

Analyses were conducted using the Statistical Package for the Social Sciences (SPSS).

Descriptive analyses were conducted using chi-square and t-tests to describe the sample and to test for differences between Black and White MSMW regarding demographic, contextual, HIV status, and sexual risk characteristics. Separate analyses were then conducted for Black and White MSMW, in which unadjusted bivariate correlates of our dependent variables (number of male partners in the past 3 months and number of female partners in the past 3 months) and hypermasculinity were explored. Variables included in multivariate models included those that were found to be statistically correlated with the dependent variables or hypermasculinity ( $p < .05$ ) in unadjusted bivariate analyses, or those that were important to control for, such as age and indicators of socioeconomic status. Separate multivariate linear regression models were used for Black and White MSMW to assess the impact of hypermasculinity in each racial group on number of male partners in the past 3 months and number of female partners in the past 3 months, while adjusting for age, annual income, homelessness or unstable housing in the past 12 months, sex trade, and internalized homophobia.

### *Sample*

The majority of the sample was non-gay-identified, with 68% identifying as bisexual, 14% as heterosexual or straight, 12% as questioning or other. One-third of the sample reported an annual income less than \$5,000, and only 22% reported an annual income \$20,000 or higher. The majority was unemployed (70%), and four out of ten men (43%) had been homeless or unstably housed in the past 12 months. One-quarter (25%) had less than a high school education and half (49%) had a high school diploma or GED. Nearly two-thirds (63%) of the sample had been in jail in their lifetime.

Important differences were observed between Black and White MSMW on several variables (Table 1). Black MSMW were more hypermasculine and had greater internalized homophobia, were more likely to say it was “very important” to keep their MSM behavior secret, to have ever been married to a female, and to have children compared to White MSMW. Black MSMW in the sample were significantly older than White MSMW, were more likely to report lower annual incomes, more likely to have less than a high school education, more likely to have been homeless or unstably housed in the past 12 months, and were more likely to have ever been in jail. Black men had a significantly higher number of female sex partners in the past 3 months and were more likely to report engaging in sex trade in the past 3 months.

### *Correlates of number of partners split by race*

White MSMW who had ever been in jail had a higher mean number of female partners in the past 3 months (means: 3.8 vs. 2.3;  $p = .036$ ) compared to White men who had never been in jail. Black MSMW who identified as heterosexual had a significantly higher number of female partners (mean=6.9) compared to Black men who identified as bisexual (mean=3.8), gay (mean=4.2), or questioning/other (mean=5.3). For White MSMW, engaging in high-risk sexual behaviors was associated with higher numbers of male and female partners. White MSMW who had engaged in sex trade in the past 3 months had a significantly higher mean number of male partners in that time period compared to men who had not engaged in sex trade (means: 4.9 vs. 2.4;  $p = .002$ ). White MSMW who had insertive unprotected anal intercourse (UAI) with a man in the past 3 months had a significantly higher mean number of female partners in the past 3 months (means: 4.1 vs. 2.3;  $p = .015$ ). White MSMW who had receptive UAI with a man in the past 3 months had a significantly higher mean number of male partners (means: 4.6 vs. 2.6;

$p=.037$ ) and a significantly higher mean number of female partners (means: 4.4 vs. 2.5;  $p=.02$ ). Finally, White MSMW who had unprotected vaginal or anal sex with a woman in the past 3 months had a significantly higher mean number of male partners (means: 4.2 vs. 2.0;  $p=.007$ ) and a significantly higher mean number of female partners (means: 3.7 vs. 2.2;  $p=.028$ ).

#### *Correlates of hypermasculinity split by race*

Among Black men, hypermasculinity ideals were significantly and positively correlated with internalized homophobia (correlation=.169;  $p=.028$ ) and number of male (correlation=.239;  $p<.001$ ) and female (correlation=.303;  $p<.001$ ) sex partners in the past 3 months. In other words, unadjusted bivariate analysis suggested that among Black MSMW, being more hypermasculine was associated with greater internalized homophobia and higher numbers of male and female sex partners. In addition, Black MSMW who had never tested for HIV, were unaware of their HIV status or refused to disclose their HIV status were significantly more hypermasculine compared to HIV-negative Black MSMW (means: 2.3 vs. 2.1;  $p=.032$ ). Among White MSMW, those who reported being homeless or unstably housed had a significantly more hypermasculine compared to those who had never been homeless (means: 2.22 vs. 1.93;  $p=.005$ ). White MSMW who felt it was “not at all important” to keep same-sex sexual behavior secret were more hypermasculine compared to men who felt it was “very important” to keep same-sex sexual behavior secret (means: 2.11 vs. 1.75;  $p=.023$ ). Similar to Black MSMW in the sample, being more hypermasculine was associated with greater internalized homophobia among White MSMW (correlation=.520;  $p<.001$ ) and a higher number of female sex partners in the past 3 months (correlation=.309;  $p=.002$ ). However, hypermasculinity was not correlated with number of male sex partners in the past 3 months for White MSMW in the sample.

#### *Multivariate predictors of number of partners*

Table 2 shows the results of 4 multivariate linear regression models examining the impact of hypermasculinity ideals on 1) number of male sex partners in the past 3 months among Black MSMW; 2) number of male sex partners in the past 3 months among White MSMW; 3) number of female sex partners in the past 3 months among Black MSMW; and 4) number of female sex partners in the past 3 months among White MSMW, controlling for internalized homophobia, age, income, and sex trade. Controlling for other covariates, being more hypermasculine was significantly associated with a higher number of male partners in the past 3 months among Black MSMW. For every unit increase in the hypermasculinity ideals score, number of male partners increased by 2.178. A higher score on the hypermasculinity ideals scale was also significantly associated with a higher number of female partners in the past 3 months among both Black and White MSMW. For Black MSMW, every unit increase on the hypermasculinity ideals scale was associated with a 3.343 increase in the number of female partners. For White MSMW, every unit increase on the hypermasculinity ideals scale was associated with a 2.319 increase in the number of female partners in the past 3 months. These results indicate that for Black MSMW, hypermasculinity ideals have a greater impact on the number of female partners than on the number of male partners with whom men had sex in the past 3 months. Furthermore, hypermasculinity ideals appeared to have a greater impact on the number of female partners for Black MSMW compared to White MSMW. Hypermasculinity was the only predictor of number of sexual partners in the past 3 months for Black MSMW. However, among White MSMW, predictors of a higher number of male sex partners in the past 3 months were engaging in sex trade in the past 3 months and having an annual income less than \$5,000. Annual income less

than \$5,000 was also predictive of a higher number of female sex partners in the past 3 months among White MSMW. Number of sexual partners in the past 3 months was not associated with Black or White MSMW's age, homelessness in the past 12 months, or levels of internalized homophobia in adjusted multivariate analyses.

#### Manuscript

The final activity conducted during the reporting period was the completion of a draft manuscript to be submitted for publication in a peer-reviewed journal.

Table 1. Demographics, Contextual Factors, HIV Status, and Risk Characteristics Comparison of Black and White MSMW: Philadelphia, 2007-2008 (N=283)

	Black, No. (%) (n=182)	White, No. (%) (n=101)	<i>p</i>
<b>Demographics</b>			
Age			<.001
18-29	11 (6.0)	34 (33.7)	
30-44	61 (33.5)	41 (40.6)	
45+	110 (60.4)	26 (25.7)	
Income			.001
<\$5,000	59 (32.4)	38 (38.0)	
\$5,000-\$9,999	46 (25.3)	19 (19.0)	
\$10,000-\$19,999	47 (25.8)	10 (10.0)	
\$20,000+	30 (16.5)	33 (33.0)	
Educational attainment			.047
<HS	51 (28.0)	19 (18.8)	
HS/GED	92 (50.5)	48 (47.5)	
Some college or more	39 (21.4)	34 (33.7)	
Current employment	48 (26.4)	28 (27.7)	.962
Full/part-time	129 (70.9)	70 (69.3)	
Unemployed	5 (2.7)	3 (3.0)	
Student/retired			
Homeless or unstably housed, past 12 months	88 (48.4)	34 (33.7)	.011
Ever been in jail	125 (68.7)	53 (52.5)	.005
Sexual identity			.053
Homosexual or Gay	11 (6.1)	4 (4.0)	
Heterosexual or Straight	32 (17.7)	8 (7.9)	
Bisexual	114 (63.0)	79 (78.2)	
Questioning/other	24 (13.3)	10 (9.9)	
<b>Contextual factors</b>			
Mean hypermasculinity scale score**	2.24 (range=1.00-3.77)	2.03 (range=1.00-3.36)	.001
Mean internalized homophobia scale score***	2.26 (range=1.00-4.00)	2.12 (range=1.00-3.00)	.035
Importance of keeping sex with men secret			.020
Not at all important	42 (23.1)	19 (18.8)	

A little/somewhat important	48 (26.4)	43 (42.6)	
Very important	92 (50.5)	39 (38.6)	
Ever married (to a female)	72 (39.6)	24 (23.8)	.005
Have children	124 (68.1)	36 (35.6)	<.001
HIV status			
Self-reported HIV status			.563
Never tested/don't know/refused*	27 (14.8)	15 (14.9)	
HIV-negative	155 (85.2)	86 (85.1)	
Risk characteristics			
Mean number of male sex partners, past 3 months	3.5 (range=0-20)	3.2 (range=0-20)	.563
Mean number of female sex partners, past 3 months	4.6 (range=0-20)	3.1 (range=0-20)	.013
Insertive UAI with male past 3 months † (n= 260)	65 (39.4)	28 (29.5)	.077
Receptive UAI with male past 3 months† (n=260)	32 (19.6)	22 (22.7)	.332
Unprotected vaginal or anal sex with female† past 3 months (n=249)	100 (66.2)	54 (56.8)	.088
Traded sex with a male past 3 months	82 (45.1)	33 (32.7)	.028

\*19 Black and 15 White MSMW had never taken an HIV test; 6 Black MSMW had never gotten an HIV test result; 2 Black MSMW refused to answer.

\*\*Hypermasculinity measured with a 13-item scale that is scored on a range from 1-4, where a higher score equals higher levels of hypermasculinity ideals.

\*\*\*Internalized homophobia measured with an 8-item scale that is scored on a range from 1-4 where a higher score equals higher levels of internalized homophobia.

†Includes only those participants who had that type of partner in the past 3 months.

Table 2. Correlates of the number of male and female sex partners in the past 3 months (Linear Regression)

Variable	Male partners past 3 months		Female partners past 3 months	
	Black MSMW	White MSMW	Black MSMW	White MSMW
Age	-.003	-.006	-.004	.007
Annual income < \$5,000±	.654	1.921*	.775	2.060**
Homeless or unstably housed past 12 months	-.844	-1.174	-.668	-1.013
Sex trade with a man past 3 months	.884	2.381**	1.027	1.374
Hypermasculinity ideals	2.178**	.977	3.343***	2.319**
Internalized homophobia	.328	-.116	.934	-.726
R <sup>2</sup>	.077	.163	.112	.200

\*p<.05; \*\*p<.01; \*\*\*p<.001

± Reference group includes men who reported incomes \$5,000 and higher.