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Condom Failure During Anal Sex Among MSM and Associated Factors

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By

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Abstract

Condom Failure During Anal Sex Among MSM and

Associated Factors

By Adam Prater, MD

Background: In the United States, HIV affects men who have sex with men (MSM) at a rate higher than that in the general population. In 2006, MSM represented more than half (53%) of all new HIV infections. The cornerstone of many HIV prevention programs is the male condom, but failure rate of condoms during anal intercourse (AI) has been estimated to be 0.5%-8%. To date there are few studies to date that have focused on characteristics and behaviors associated with condom breakage in MSM. This study used data from a national online HIV prevention survey of MSM to estimate rates of condom failure, and to identify demographic features and risk behavior characteristics associated with condom breakage during AI.

Methods: Data were collected between March 19 - April 16, 2009 from an online survey of US MSM recruited through a social networking site. Eligible men were at least 18 years of age and reported at least one male sex partner in the last 12 months. Multivariable logistic regression, controlling for demographic and sexual risk behavior predictors, estimated the odds of condom failure during anal intercourse (AI).

Results: Of the initial 9,005 participants, 8,063 had at least one male sexual partner in the last 12 months. 2,585 were Hispanic, 1,175 were black, and 1,001 were multi-racial. Most of the participants reported having attended some college, and 75% of all participants were aged 18-26. Nearly half (46%) of the participants reported having between two and five sex partners in the last 12 months. A total of 944 (10%) out of 9,005 participants used a condom during last AI. These 944 participants reported a total of 1,114 distinct incidences of AI with condom use (receptive or insertive) during their last sexual activity with their most recent male sexual partner. Condom breakage was reported by 29 (4.5%) participants who engaged in receptive AI and 17 (3.6%) participants who engaged in insertive AI; the overall failure rate was 4.1%. Having a high number of male sex partners was associated with condom failure [adjusted odds ratio per 10 sexual partners (aOR): 1.05, 95% confidence interval (CI): 1.003 - 1.100]

Conclusions: Condoms continue to provide a strong component to prevention policy, and our findings clearly indicate a high risk subgroup that would likely benefit from a prevention policy that focuses on condom education. Specifically, MSM with a higher number of sexual partners are at an increased risk for HIV transmission secondary to condom failure. Our data also reinforce the paucity of research regarding condom failure among MSM. Further investigation should include a prospective study of condom failure among MSM, particularly focusing on identification of MSM subgroups that exhibit high risk behaviors such as a high number of male sexual partners.

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Background

In the United States, HIV affects men who have sex with men (MSM) at a rate higher than the general population. Recent surveillance data demonstrate that male-male transmission is the largest transmission category in the United States [1, 2]. In 2006, MSM represented more than half (53%) of all new HIV infections[3]. A major factor cited with increased risk of transmission in MSM is that anal intercourse (AI) has a higher rate of transmission than vaginal intercourse [4, 5]. Additionally, the practice of unprotected anal intercourse (UAI) continues to pose a significant threat to the health of MSM. Risk behavior data from the National HIV Behavioral Surveillance System indicates that 47% of MSM have engaged in UAI in the past year [6]. Guy et al. estimate that UAI accounts for the greatest proportion of new HIV infections and suggest that reduction of UAI is an efficient and effective HIV prevention strategy [7].

The cornerstone of many prevention programs is the male condom, which has been shown to decrease the transmission of HIV when used correctly; however, the majority of condoms manufactured and sold in the United States are labeled for vaginal use only[8]. This distinction is based on the concern that condoms designed for vaginal intercourse (VI) may not afford the same level of protection when used for AI. Some studies suggest that the risk of condom failure is higher during AI than in VI [8, 9]. De Wit et al. found that condoms designed for VI broke at a greater rate than condoms designed for AI in a cohort of MSM [10].Condom failure, commonly defined by breakage or slippage of a condom during intercourse, is a proven correlate of HIV seroconversion risk [11, 12]. The Multicenter AIDS Cohort Study differentiated

between MSM who used condoms with all, some, or none of their partners during AI and calculated HIV conversions rates for each group over six months. The seroconversion rate for the subjects reporting condom use with all partners was calculated at 7 per 1,000 per 6-month interval, suggesting that condoms provide incomplete protection[13]. The failure rate of condoms during anal intercourse (AI) has been estimated to be 0.5%-8% [10, 14-19].

There are many studies that have focused on user characteristics and behaviors associated with condom breakage, the majority of which focus on vaginal sex in heterosexual couples. Previous studies have shown that young age[20, 21], black race[20], exchange of sex for goods or money[20], sex after using drugs or alcohol[20, 22], lack of sexual experience[21], and low educational attainment[22]are associated with condom breakage. Studies have shown that AI is also a significant source of HIV transmission in heterosexual couples [23, 24], yet there are few studies that detail condom failure in heterosexual AI. This fact illustrates that a broader approach to sexual activity and condom failure modes is warranted.

A review of current literature indicates that there is only a small body of research that has focused on characteristics and behaviors associated with condom breakage in MSM. Young age[25], general drug use [25], long duration of sex[26], inappropriate use of lubricant[14, 27], lower educational attainment [14], and inappropriate condom preparation [14]have been associated with condom breakage in MSM. Burchell et al. indicated that receptive AI in particular posed a high risk of HIV transmission secondary to condom failure [28].

The identification of high risk groups and high risk behaviors are essential for planning and evaluation of prevention programs. Further research into the factors affecting condom

breakage in MSM would better inform HIV prevention policy by highlighting groups that would benefit from condom education. We used data from a national online HIV prevention survey of MSM to identify demographic features and risk behavior characteristics associated with condom breakage during AI.

METHODS

Study Design

We conducted an analysis using data collected between March 19 - April 16, 2009 from an online survey to evaluate the rate of condom breakage during anal intercourse (AI) and to determine factors associated with condom breakage during AI. Participants were recruited from MySpace, a large social networking site, using banner advertisement recruitment. Advertisements were directed at male users of MySpace age ≥ 18 who indicated that their residence is in the United States and self-identified as gay, bisexual, or unsure. Once the user clicked through the banner advertisement, participants were screened for eligibility and provided informed consent for an internet-based survey. The study protocol was reviewed and approved by Emory University's Institutional Review Board. Eligible participants were men ≥ 18 years of age, residents of the United States, and had at least one male sex partner in the past year. No compensation was provided to the participants. The eligibility questions, consent forms and survey were all hosted in a HIPPA-compliant survey by SurveyGizmo (.surveygizmo.com; Boulder Colorado).

The survey was conducted online and took participants 30-45 minutes to complete. In the survey, participants were asked for relevant demographic information including race, sexual orientation, and educational attainment. Additionally, questions focused on their most recent male and female sexual partners and the last time the participant engaged in sexual activity with them. Specifically, last sexual activity was clarified to mean either anal or oral sex. Other questions included number of sexual partners in the last year, drug and alcohol use, condom use and condom breakage during last anal intercourse. For our analysis we hypothesized that

condom breakage during last AI would be associated with exchange sex and being under the influence of drugs or alcohol during sex.

Measures

Our outcome measure of condom breakage was assessed by categorical response to two separate questions designed to capture both receptive and anal insertive sex acts. The first question asked "Did [your last sexual partner] use a condom the last time you had *receptive* anal sex?" The responses included "He did not use a condom/He used a condom part of the time/He used a condom the whole time/He used a condom but it broke/Don't know/Prefer not to answer". The second question asked "Did you use a condom the last time you had *insertive* anal sex?" The responses included "I did not use a condom/I used a condom part of the time/I used a condom the whole time/I used a condom but it broke/Don't know/Prefer not to answer". The total number of instances of condom failure was determined by adding the number responses ("He used a condom but it broke/I used a condom but it broke") in both questions.

The race/ethnicity of the participants was identified by two questions. The first question asked the participant if he considered himself to be Hispanic. The next question then asked the participant what race he considered himself to be. The data from these two questions were combined into a single variable describing the race/ethnicity of the participant. In order to preserve power in the multivariate analysis, levels were merged into Hispanic, white/non-Hispanic, black/non-Hispanic, and other (which included non-Hispanic Asian/Pacific Islander, Native American/Alaska Native, multi-racial and other race/ethnicity).

Other variables of interest captured the demographics of the participants (education level, sexual orientation), their sexual risk behaviors (number of male sexual partners in the last 12 months, use of alcohol or drugs) and characteristics of their most recent male sex partner (whether he was a main, casual, or exchange partner).

The type of partner that the participant last had anal intercourse with was determined by two questions. The first question asked if the partner was main or casual, and the second question asked whether the partner was an exchange partner. A main partner was defined as someone that the participant felt "committed to above all others." A casual partner was defined as one whom the participant did not "feel committed to above all others." An exchange partner was defined as "someone you have sex with in exchange for money, drugs, food, or something else of value."

Analysis

Analyses were conducted to determine what demographics and behaviors of MSM are associated with condom breakage during AI. In order to be included in the final analysis, participants must have engaged in receptive or insertive AI in the last 12 months and reported condom use during last anal intercourse.

The covariates were chosen based on extensive survey of previous literature. Age[20, 21, 25], race[20], educational attainment[20], drug/alcohol use [20, 22, 25], and exchange sex[20] have been shown to be associated with condom failure and were therefore added to the initial model. Studies have indicated that having a large number of sexual partners is associated with HIV transmission in MSM [29, 30], thus number of male sexual partners was also added as a covariate.

Individual bivariate analyses evaluated crude associations between the covariates and condom failure. Statistically significant covariates (Mantel-Haenszel Crude Odds Ratio p <.20) were included in a multi-variable logistic regression model predicting the outcome of condom failure during AI. The dependent variable condom failure was calculated as an event-based analysis, with condom use and failure being reported for both receptive and insertive anal intercourse at last sex. Odds ratios and 95% confidence intervals were used in analyzing categorical variables. For continuous variables, a Wilcoxon rank-sum Z Test (two-sided) was used because they were determined to be non-normally distributed. To determine the association of the participant's age and condom failure, odds of condom failure during AI were calculated per 10-year increase in participant's age.

Race and educational attainment were included in the initial model despite having statistically insignificant bivariate associations with the dependent variable, because previous studies have found them to be predictors of condom failure.

A chi-square ($\chi 2$) test was used to determine whether there were differences between those who completed the survey and those who did not, and between condom failure rates for receptive AI versus insertive AI.

All analyses were conducted using SAS version 9.2 (SAS Institute; Cary, North Carolina). The initial modeling within SAS was conducted using the proc logistic command with backwards elimination. Proc genmod was then used to control for repeated observations of respondents given that the outcome variable condom failure was calculated using an event-based analysis.

RESULTS

Overall 9,005 participants completed the initial screening questions and gave consent. 942 (10%) participants were ineligible for our analysis because they reported no male sexual partners in the last 12 months. The remaining 8,063 participants were included in the demographic analysis (Table 1). The majority of participants were members of a racial or ethnic minority: 2,585 were Hispanic, 1,175 were black non-Hispanic, and 1,001 were multi-racial. Most of the participants reported having attended some college, and three quarters of all participants were aged 18-26. The median number of male sex partners was three, and over half of participants' last male sex partners were casual partners. Nearly 20% of participants had used drugs or alcohol just prior to engaging in sexual activity and 6% of participants reported exchange sex with their most recent male sex partner.

In order to be included in the final analysis, participants had to report having AI (receptive or insertive) in the last 12 months and report condom use during their last AI. Of the 8,063 MSM included in the demographic analysis, 2,474 (31%) participants were excluded from the analysis for reporting no anal sex in the last 12 months, and an additional 4,645 (58%) participants were excluded for not reporting using a condom use during last AI. A total of 944 (10%) participants out of 9,005 were eligible for the final analysis. These 944 participants reported a total of 1,114 distinct incidences of AI with condom use (receptive or insertive) during their last sexual activity with their main partner; this is possible because respondents could report having both insertive and receptive anal sex at last sex. Results of the exclusion process are depicted in Figure 1. The condom failure rates were calculated as an event-based

analysis for AI (receptive or insertive) to use in the final analysis. The bivariate and multivariate analyses with crude and adjusted OR's are presented in Table 2.

A chi-square ($\chi 2$) test was used to determine whether there were differences between those who completed the survey and those who did not. No statistically significant differences were found. All findings were reported as Chi-square test statistics with p-values (< .05). The results are presented in Table 3.

Factors associated with condom failure during last anal intercourse

Of the 944 participants included in the final analysis, 647 (69%) reported using a condom during receptive AI and 467 (49%) reported using a condom during insertive AI. Condom breakage was reported in 46 (4.1%) times out of 1,114 total distinct episodes of anal intercourse. Condom breakage was reported by 29 (4.5%) participants who engaged in receptive AI and 17 (3.6%) participants who engaged in insertive AI. There was no statistically significant difference between condom failure rates for receptive sex versus anal sex.

In the initial logistic regression model, number of male sexual partners in the past year and exchange sex were associated with condom failure during last anal intercourse. A participant's odds of condom failure increased 5% for every 10 male sex partners in the past year. If the participant's most recent sexual partner was an exchange partner, the odds of condom failure were increased by more than a factor of three.

In order to control for repeated observations in our event-based analysis, proc genmod was used to subsequently model the data. In this final model, number of male sexual partners

remained significantly associated with condom failure, but exchange sex was eliminated from the model. This indicates a cluster of participants who reported condom failure and exchange sex for both receptive and insertive anal intercourse.

Discussion

We found an overall condom failure rate of 4.1%, which is concordant with previous studies [10, 14-18], although there is considerable variability among breakage rates from prior studies. Golombok et al. (2001) found a condom failure rate of 2.3% in a group of 283 homosexual couples in the UK. This study only focused on sexual activity among longer-term couples, which does not accurately reflect MSM with multiple sexual partners or casual sexual partners. This likely explains the relatively low condom failure rates compared to other current literature. Tindall et al. (1989) report a condom failure rate of 6% in a group of 420 MSM in Australia. This study merely reported condom failure and did not examine factors associated with condom failure. Van Griensven et al. (1988) report a breakage rate of 8% among 112 MSM in The Netherlands, while Richters et al. (1988) report a breakage rate of 0.5% in a group of 30 MSM sex workers in Australia. The wide variability in these two groups likely reflects the small sample sizes examined. It is clear that the wide variability of condom failure rates among these studies is a reflection of the diverse population studied and smaller sample sizes. Our study started with a larger sample size compared to previous studies.

MSM from this cross-sectional study who reported having a male exchange partner had significantly increased odds of experiencing condom failure during AI in the initial model. This finding is consistent with reports from previous literature. Exchange sex has been identified as a significant risk factor for HIV transmission in prior studies [31-35], which focus on unprotected sex as the identifiable behavioral risk. This covariate was dropped from the final model once the data was evaluated for repeated observations. This suggests a cluster of participants who

reported exchange sex and both receptive and insertive AI during last sex. Despite the loss of statistical significance between modeling techniques, our results suggest condom failure may be an important driver of risk among MSM who engage in exchange of sex for money or drugs. This highlights a subset of MSM who may be at increased risk for condom failure and the subsequent increased risk of HIV transmission.

The number of male sexual partners was associated with an increased risk of condom failure. For every increase in number of male sexual partners by ten, the odds of condom failure increased by 5%. There are likely user characteristics of participants with large numbers of sexual partners not captured by our survey that could explain the statistical association with condom failure. Participants with a larger number of male sexual partners might have engaged in more aggressive coital behaviors than those with fewer sexual partners, leading to greater stress on the condom. Steiner et. al (1993) suggest that heterosexual couples with multiple sexual partners are more likely to engage in vigorous sex leading to condom failure when compared to monogamous couples. Similarly, participants with a large number of male sexual partners may have a predisposition to inappropriate use of lubricant. Grady and Tanfer (1994) studied a cohort of heterosexual men engaging in both vaginal and anal sex with female partners and found that condom failure was associated with having a high number of partners and inappropriate use of lubricant. Having a high number of sexual partners is an established risk factor for transmission of HIV [34], and many prevention programs have stressed limiting the number of sexual partners in order to decrease risk of HIV transmission. Our data suggest that a subset of high risk MSM who would benefit greatly from condom use are more susceptible to condom failure.

Some researchers have shown that more sexual experience is associated with a lower risk of condom failure [36]. If one assumes that individuals with an increased number of sexual partners have more sexual experience and therefore have lower risk of condom failure, our results appear to contradict the association between sexual experience and low condom failure rates. Number of sexual partners, however, does not necessarily correlate with an increase in sexual experience, and our study did not specifically ask about previous sexual experience. Nonetheless, our results support condom failure as important driver of risk among MSM with increased numbers of male sex partners.

Several studies demonstrated that drug use is associated with an increased risk of HIV in both heterosexual males engaging in vaginal intercourse and MSM engaging in AI[37, 38], and drug and/or alcohol usage before sex was expected to be associated with the odds of condom failure. In the bivariate analysis, drug/alcohol use was found to be strongly associated with condom failure, yet it became insignificant in the final model. We interpret this change in significance in the multivariate model to mean that drug use before sex may have been related to another variable in the model such as sex exchange. Our study did not evaluate drug or alcohol use in detail, but simply asked about being under the influence of drugs and/or alcohol during last intercourse. A more detailed evaluation of drug and alcohol use and its association with condom failure in anal intercourse is warranted.

Previous studies of MSM have found that being young and having low educational attainment are associated with condom failure during AI. We found no significant association between age, race, or educational attainment in our population of MSM.

There are noted limitations of our study design. Most notably, our respondents are not representative of all MSM in the United States. Our respondents are proficient with computers, making them more likely to have a higher education and higher income than the general population. Additionally, our survey only captured respondents who identified themselves as gay, bisexual or unsure on a social networking site. MSM who self identify as "straight" on their MySpace profile would not be represented in our sample. Our study evaluated condom breakage at last intercourse using a cross-sectional design, which does not represent condom usage over time. Aidala et al. (2006) indicated demonstrated that safe sex behaviors fluctuate over time [31], and a prospective study would better capture condom use and failure patterns. Some responses may have been affected by recall and social desirability bias. Inherent bias is present regarding condom breakage as some respondents might not know if a condom broke during sex, which would lead to misclassification.

The majority of studies that have evaluated condom failure define condom failure as condom breakage or slippage during sex. Our study only used condom breakage as a measurement of condom failure, and omission of condom slippage data could also lead to underreporting of condom failure in our study. Steiner et al. (2007) provided a detailed condom failure analysis, expounding upon condom failure behaviors by examining precoital condom behaviors such as improper storage, application, and lubricant use [39]. There is additional evidence that use of biomarkers such as prostate specific antigen (PSA) in rectal swabs after intercourse may strengthen the validity of self-reported condom failure [40, 41] by correlating recall of condom failure with biochemical evidence of semen exposure.

The majority of condoms marketed in the United States are labeled for vaginal use only. Golombok et al. (2001) provide the only comparison of thicker condoms designed for anal sex versus standard condoms marketed for vaginal use in MSM, and found no difference in condom failure between the two types of condoms. This study included only MSM couples in the UK and did not provide a representative sample MSM in the US with multiple partners. A dedicated study evaluating a direct comparison of different condom designs by a representative group of MSM in the US is needed as there is a dearth of data addressing the use of "vaginal" condoms for anal sex.

Designing a study that tests condom failure of a new "anally qualified" versus a standard condom carries an inherent ethical dilemma in that researchers would prescribe the use of device with unknown efficacy for a behavior with known risks. These concerns could be mitigated by recruiting HIV-negative concordant couples who pledge to remain monogamous during the study after being fully informed of risks. A clinical trial designed for such a population should evaluate the effect of user experience, use of sexual lubricants, duration of intercourse, condom storage and application, behavior risks such as concomitant drug/alcohol use, and standard demographic data.

A major strength of our study was the large, diverse sample size of MSM from the United States. There have been very few published studies that focus on condom failure in MSM. None of the published studies started with a large, geographically diverse population. The strength of Internet surveys is the efficiency at which the researcher is able to generate strong conclusions in a timely manner. Additionally, our outcome variable analyzed condom

failure per sex act (both receptive and insertive anal intercourse) which allowed us to evaluate for any difference in risk between types of anal intercourse and event-specific covariates (such as drug or alcohol use). The condom failure rates calculated in our study were also concordant with previously estimated failure rates for other studies of MSM.

Conclusion

The continuing epidemic of HIV among MSM is comprised of particularly high risk subgroups that remain difficult to identify and reach with standard prevention programs. An effective HIV prevention program for MSM requires a deep understanding of the complex behavioral risks within the MSM community. Condoms continue to provide a strong component to prevention policy, and our findings clearly indicate a high risk subgroup that would likely benefit from a more specific prevention policy. Specifically, MSM with a higher number of sexual partners are at an increased risk for HIV transmission secondary to condom failure. Moreover, targeted condom education programs would help mitigate risk of HIV transmission in this high risk subgroup. Our data also reinforce the paucity of research regarding condom failure among MSM. Further investigation should include a prospective study of condom failure among MSM, particularly focusing on identification of MSM subgroups that exhibit high risk behaviors such as exchange sex and drug/alcohol abuse. Further studies should also capture a detailed analysis of precoital factors such as storage and condom application, as well as coital factors such as sexual duration, sexual experience, and use of sexual lubricants.

Further research into condom failure in MSM has wider implications, because anal intercourse remains a significant mode of transmission in heterosexuals. The majority of condom failure studies in heterosexuals have focused solely on vaginal sex, leaving a substantial gap in data driven prevention programs.

Overall, public health education programs have made a substantial impact on the HIV epidemic. Our findings have both clearly delineated a subgroup of MSM at higher risk of HIV transmission and shown new directions for future public health policy research.

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Table 1: Demographic and behavioral characteristics of 8,063 men who have sex with men who completed an online HIV prevention survey, United States, March-April 2009

Characteristic	Number	Percent
Race		
Hispanic	2,585	32.1
White, non-Hispanic	3,302	41.0
Black, non-Hispanic	1,175	14.6
Other*	1,001	12.4
Education		
≤ High School Diploma or Equivalent	4,165	57.2
> High School Diploma	3,448	42.8
Used Drugs or Alcohol before Sex		
Yes	1,586	19.7
No	6,477	80.3
MRMSP is an Exchange Partner †		
Yes	509	6.3
No	7,554	93.7
Type of MRMSP		
Main	3,974	49.3
Casual	4,089	50.7
Continuous variables		
Age (years)		
Mean	24.1	--
Median	22	--
IQR	19 - 26	--
Number of male partners, past 12 months		
Mean	8	--
Median	3	--
IQR	2 - 6	--

MRMSP: Most Recent Male Sex Partner; IQR: Interquartile Range

* Other includes Asian/Pacific Islander, Native American/Alaska Native, and Multi-racial

† A partner with whom the participant had sex with in exchange for things they needed (e.g., money, drugs, food, shelter, or transportation)

Figure 1: Summary of Exclusion Results

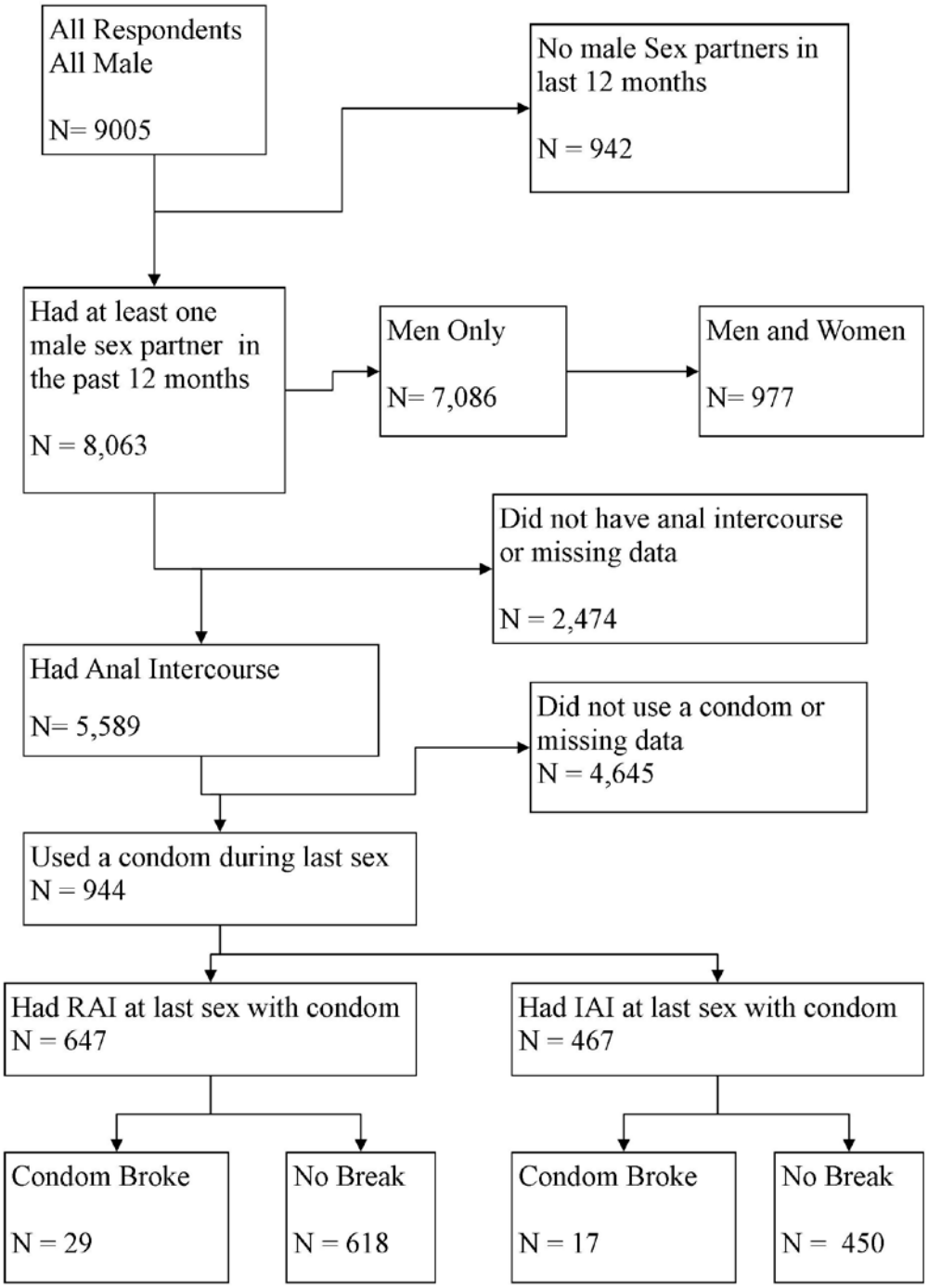

Table 2: Associations between demographic and behavioral factors and condom breakage among 944 men who have sex with men

	Broken Condom	No Broken Condom	Crude OR (95% CI)	Adjusted OR (95% CI)
Categorical Variables				
Race				
Hispanic	17 (37)	431 (40.4)	Referent	--
White, non-Hispanic	11 (23.9)	339 (31.7)	0.8 (0.4 - 1.8)	--
Black, non-Hispanic	10 (21.7)	154 (14.4)	1.6 (0.7 - 3.7)	--
Other*	8 (17.4)	144 (13.5)	1.4(0.6 - 3.3)	--
Education				
≤ High School Diploma or Equivalent	24 (52.2)	482 (45.1)	1.3 (0.7 - 2.4)	--
> High School Diploma	22 (47.8)	586 (54.9)	Referent	--
Used Drugs or Alcohol before Sex				
Yes	17 (37)	254 (23.8)	1.9 (1.02 - 3.48)	--
No	29 (63)	814 (76.2)	Referent	--
MRMSP is an Exchange Partner†				
Yes	6 (13)	29 (2.7)	5.4 (2.1 - 13.7)	--
No	40 (87)	1039 (97.3)	Referent	--
Type of MRMSP				
Main	27 (59)	526 (49)	1.5 (0.8 - 2.7)	--
Casual	19 (41)	542 (51)	Referent	--
Continuous variables				
Number of male partners, past 12 months‡	36.1	11.6	1.1 (1.05 - 1.15)	1.05 (1.003 - 1.100)
Age (years)§	21.6	23.0	1.6 (0.9 - 3.0)	--

MRMSP: Most Recent Male Sex Partner

* Other includes Asian/Pacific Islander, Native American/Alaska Native, and Multi-racial

† A partner with whom the participant had sex with in exchange for things they needed (e.g., money, drugs, food, shelter, or transportation)

‡ Odds ratios calculated per 10 sex partners

§ Odds ratios calculated per 10 years

Table 3: Comparison of Participants Completing Survey Versus Those Who Dropped Out

	Completed n (%)	Dropped Out n (%)	χ2 (p value)
Race			
Hispanic	375 (13)	2434 (87)	
White, non-Hispanic	285 (8)	3188 (92)	
Black, non-Hispanic	151 (12)	1142 (88)	
Other *	133 (9)	1297 (91)	47.9 (<.001)
Education Level			
Some college or Associates Degree	391 (11)	3140 (89)	
High School or GED	329 (11)	2585 (89)	
College, Postgraduate or Professional Degree	135 (11)	1149 (89)	
Less than high school	72 (11)	556 (89)	
Other †	17 (3)	631 (97)	46.6 (<.001)
Age (years)	22.95	24.08	16.4 (<.001)

* Other includes Asian/Pacific Islander, Native American/Alaska Native, and Multi-racial

† Includes no school, don't know, and no answer

Appendix A. Annotated SAS Code

```
libname hw 'c:\PGY-1\New MPH Thesis\SAS';

LIBNAME LIBRARY 'c:\PGY-1\New MPH Thesis\SAS';

***Temporary data set;
data work.final10off ;
set hw.final10off ;
run;


************List of receptives***********;
datanewsetlistRAI;
set work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai=1 and 1<= lsurai<=3;
typeai=1;
outputlistRAI ;
run;


      ***************List of insertives**************;
datanewsetlistIAI;
set work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsiai=1 and 1<= lsuiai<=3;
typeai=2;
outputlistIAI ;
run;

*****************combined list***********;**checking >10 sex part;
data combined;
setlistrailistiai;
ifneweduc>=3theneduclass = 1;
eleseduclass = 0;
ifnummsp = 1thensexpart = 1; else
ifnummsp in (2,3,4,5) thensexpart =2; else
sexpart = 3;
ifnewrace = 'UNKNOWN'thennewrace = 'OTHER';
ifnewrace = 'OTHER'thenracelog = 4; elseif
newrace = 'BLACK'thenracelog = 1; elseif
newrace = 'HISPANIC'thenracelog = 3; elseif
newrace ='WHITE'thenracelog = 2;
iftypeai=1 and lsurai=3then broke=1; else
iftypeai=2 and lsuiai=3then broke=1; else
broke = 0;
iflsdrugs in (1,2,3) then druggy=1;
else druggy=0;
ifexch = 1thenanyexchange = 1;
eleanyexchange = 0;
ifexch = 1thenprostmain =1;
elseprostmain = 0;
if var217 = 1thenlastexchange = 1;
elselastexchange = 0;
if age >0then x = 1;
ifmsptype = 1thenmaintype = 1;
elsemaintype=0;run;
```

```
*********Incomplete Data set for comparison with those who finished survey;
*** data set leaving out people with no MSP;
datanewsetnomsp;
set work.final10off;
wherenummsp>0;
outputnomsp;run;

** No male sex partners dataset;
data nomsp1;
setnomsp;
ifnewrace = 'UNKNOWN'thennewrace = 'OTHER';
ifnewrace = 'OTHER'thenracelog = 4; elseif
newrace = 'BLACK'thenracelog = 1; elseif
newrace = 'HISPANIC'thenracelog = 3; elseif
newrace ='WHITE'thenracelog = 2;
ifnummsp = 1thensexpart = 1; else
ifnummsp in (2,3,4,5) thensexpart =2; else
sexpart = 3;
iflsdrugs in (1,2,3) then druggy=1;
else druggy=0;
ifexch = 1thenanyexchange = 1;
elseanyexchange = 0;
if var217 = 1thenlastexchange = 1;
elselastexchange = 0;
if age >0then x = 1;
ifmsptype = 1thenmaintype = 1;
elsemaintype=0;
ifneweduc>=3theneduclass = 1;
eleeduclass = 0;run;

procsortdata = work.final10off;
by id;run;

procsortdata = combined;
by id;run;

data overlap;
merge combined work.final10off;
by id;run;

procunivariatedata=overlap;
varprostmain;run;

data incomplete;
set overlap;
whereprostmain =.;
output incomplete;run;

datanewset dropout;
set incomplete;
if age >0then x = 0;
ifneweduc>=3then educlass1 = 1;
else educlass1 = 0;
ifnewrace = 'UNKNOWN'thennewrace = 'OTHER';
ifnewrace = 'OTHER'thenracelog = 4; elseif
newrace = 'BLACK'thenracelog = 1; elseif
```

```
newrace = 'HISPANIC'thenracelog = 3; elseif
newrace ='WHITE'thenracelog = 2;
iflsdrugs in (1,2,3) then druggy=1;
else druggy=0;
ifexch = 1thenanyexchange = 1;
elseanyexchange = 0;
if var217 = 1thenlastexchange = 1;
elselastexchange = 0;
if age >0then x = 1;
ifmsptype = 1thenmaintype = 1;
elsemaintype=0;
run;

***************Descriptive Chart******************;

**Variable Whosex, is it concordant with orientation?---->     ;
**--------> none missing;
**1 = men ----> 7,888;
Procunivariatedata= work.final10off;
wherewhosex =1;
varwhosex;
run;

**2 = women ---->0  ;
Procunivariatedata= work.final10off;
wherewhosex =2;
varwhosex;
run;

**3 = both ---->1,117 ;
Procunivariatedata= work.final10off;
wherewhosex =3;
varwhosex;
run;

**4 = no sex in past year ---->0  ;
Procunivariatedata= work.final10off;
wherewhosex =4;
varwhosex;
run;

***Number of male sex partners in men only and both;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0;
varnummsp;
run;
***935 missing, 7 put 0, 8063 >0  answer for nummsp ;

***Number of male sex partners in men only ;
procunivariatedata= work.final10off;
wherewhosex =1 and nummsp = 0;
varnummsp;run;
***Number of male sex partners in both men and women ;
procunivariatedata= work.final10off;
wherewhosex =3 and nummsp = .;
varnummsp;
run;
```

```
***977 put > 0, 1 put 0, 139 missing;

***************Independent variable*******************;

****Did you have receptive anal sex;
***yes = 1 ---> 3,868 , no = 2,348 , Don't know = 16, prefer no answer = 20,
missing = 1,811 ;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai  = 1 ;
varlsrai;run;

****Did you have insertive anal sex;
***yes = 1 ---> 3,117 , no = 3,099, Don't know = 25 ,prefer no answer = 21 ,
missing = 1801;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsiai  = 1;
varlsiai;run;

****Checking receptive condom use variable****;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai=0;
varlsurai;run;

****Checking overlap*************;
****Had both receptive and insertive---> 1,396;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai  = 1 and lsiai =1 ;
varid;run;

****1. combined condom use total RAI condom use---->210;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai  = 1 and lsiai =1 and lsurai in
(1,2,3) ;
varid;run;

****2. Combined condom use total IAI use---->196 ;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai  = 1 and lsiai =1 and lsuiai in
(1,2,3) ;
varid;run;

****3. Combined condom use both RAI and IAI use---> 170;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai  = 1 and lsiai =1 and lsurai in
(1,2,3)and lsuiai in (1,2,3) ;
varid;run;

****Had receptive but not insertive---> 2,472;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai  = 1 and lsiai in (.,0,7,9) ;
var id;
run;

****1. Only RAI condom use ---->437 ;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai  = 1 and lsiai in (.,0,7,9)and
lsurai in (1,2,3) ;
```

```
var id;
run;

****Had insertive but not receptive---->1,721 ;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai in(.,0,7,9) and lsiai = 1 ;
var id;
run;
****1. Only IAI condom use ---->271 ;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai in(.,0,7,9) and lsiai = 1 and
lsuiai in (1,2,3) ;
var id;
run;

************************Condom breakage*******************************
****Breakage in RAI---------> 29 breaks, 618 no break;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsrai  = 1 and lsurai in (1,2);
var id;
run;

********Breakage in IAI---------> 17 breaks, 450 no break;
procunivariatedata= work.final10off;
wherewhosex in (1,3) and nummsp>0 and lsiai  = 1 and lsuiai =3;
var id;
run;


********************Mantle Handel Statistics************************;
procsortdata=combined;
by broke;
run;

*** Last partner main or casual, Any exchange behavior, and last partenr
exchange;
procfreqdata=combined;
tablesmaintype*broke anyexchange*broke lastexchange*broke/cmh;
run;

procfreqdata=combined;
tables broke broke*typeai broke*druggy broke*newrace/cmh;
run;

*** Race ****;
procfreqdata=combined;
wherenewrace in ('HISPANIC','BLACK') ;
tablesnewrace*broke/cmh;
run;

procfreqdata=combined;
wherenewrace in ('WHITE','HISPANIC') ;
tablesnewrace*broke/cmh;
run;

procfreqdata=combined;
wherenewrace in ('HISPANIC','OTHER') ;
```

```
tablesnewrace*broke/cmh;
run;

*** median test for age and number of male sexual partners****;
procsortdata=combined; by broke;
procunivariatedata=combined;
var age nummsp; by broke;
run;

procnpar1waydata=combined medianwilcoxon;
class broke;
var age nummsp;
run;

procunivariatedata=combined;
varnummsp; where broke =1;
run;

** Breaking nummmsp in to brackets;
** sexpart 1 = 1 sex partner, sexpart 2 = 2-5, sexpart 3 = >6;
procfreqdata=combined;
      wheresexpart in (1,3);
      tables broke*sexpart / cmh;
run;

procfreqdata=combined;
      wheresexpart in (1,2);
      tables broke*sexpart / cmh;
run;

**** crude OR ****;
proclogistic; model broke=age/ clodds= wald;
units age=10;
run;

proclogisticdata=combined; model broke=nummsp / clodds = wald;
unitsnummsp=10;
run;

****Exchange behaviors;
****in past year (prost) main partner (prostmain);
procfreqdata=combined;
tables broke*prost broke*prostmain /cmh;
run;


*** education level *** ;
procfreqdata = combined;
      tables broke*educ broke*neweduc / missing;
run;

procfreqdata = combined;
      whereneweduc in (1,2) ;
      tables broke*neweduc / cmh;
run;

procfreqdata = combined;
```

```
      whereneweduc in (2,3) ;
      tables broke*neweduc / cmh;
run;

procfreqdata = combined;
      whereneweduc in (2,4) ;
      tables broke*neweduc / cmh;
run;

procfreqdata = combined;
      whereneweduc in (2,5) ;
      tables broke*neweduc / cmh;
run;

*** changed education to HS or less = 1, >HS = 0. Variables iseduclass;
procfreqdata = combined;
      tables broke*educlass / cmh;
run;

**********Drug use;
procfreqdata=combined;
tables broke*druggy/cmh;run;

procfreqdata = combined;
tablesracelog;run;

**************************** Logisitic regression **********************;
proclogisticdata = combined;
classracelog (param=ref ref='3');
model broke(EVENT='1')=age educlassmaintypelastexchangenummspracelog druggy /
selection = backward sls=.10clodds=wald;
unitsnummsp=10;run;

*** GENMOD;
procgenmoddata = combined descendingorder = freq;
class id racelog;
model broke = age educlass maintype lastexchange nummsp racelog druggy / dist
= poisson link = log ;
repeatedsubject = id/ type = unstr;
estimate'MSP' nummsp 10 / exp;
run;

PROCUNIVARIATEDATA=combined NORMALPLOT;
VARnummsp;
HISTOGRAMnummsp  /  NORMAL;
PROBPLOTnummsp  / NORMAL (MU=EST SIGMA=EST);
run;

***Checking for interaction;
proclogisticdata=combined;
model  broke(EVENT='1')= lastexchangenummsplastexchange*nummsp;
unitsnummsp=10;run;
*** There is no interaction;
*** Checking for Bias with dropouts;
procfreqdata = dropout;
tablesracelog educlass1 neweduc;
run;
```

```
procunivariatedata = dropout;
var age;
run;

procfreqdata = combined;
tablesracelogeduclassneweduc;run;

procunivariatedata = combined;
var age;run;

****Chi Square Tests;
procsortdata = combined;
by id;
run;

procsortdata= dropout;
by id;
run;


datanewset chi;
set dropout combined;
run;

procsortdata = chi
nodupkey;
by id;
run;

procfreqdata = chi;
tables x;
run;

**** all set for chi squares now x= 1 (complete);
procfreqdata = chi;
tables      racelog*x educlass*x neweduc*x / chisq;
run;

procnpar1waydata=chi medianwilcoxon;
class x;
var age nummsp;
run;

******** Does condom breakage differ between recpetive and insertive;
procfreqdata = combined;
tables broke*typeai / chisq;
run;

**** Demographic analyses ***--> race, educ, druggy, maintype, anyexchange,
nummsp, and age;
procfreqdata = nomsp1;
tableseduclassracelog druggy maintypeanyexchange;
run;

procunivariatedata = nomsp1;
var age nummsp;run;
```

Health Survey

Demographics

Thankyou for interest in our survey.

Helpful tips:

Pleasenote that at any time during the survey, you can save your progress and return later to complete the survey -- just click the text "Save and continue survey later" on the top right of the browser window.

Questionsmarked with a red asterisk (*) are required questions that you must answer to move forward.

Usethe back button at the bottom of each page, rather than the back button on your browser.

First,we have a few questions to determine if you are eligible to participate in the survey.

1.What is your sex? (Required)

- ○ Male
- ○ Female

2.What is your age? (Required)

[ ]

3.In the past 12 months, have you had sex with: (Required)

- ○ One or more men
- ○ Oneor more women
- ○ Bothmen and women
- ○ Ihave not had sex in the past year

Informed consent

StudyNo.: IRB00014085
EmoryUniversity IRB
DocumentApproved On: 2/26/2009
ProjectApproval Expires On: 11/6/2009

EmoryUniversity Rollins School of Public Health
Consentto be a Research Subject

Title:Online Health and Technology Survey

Principal Investigator: Patrick Sullivan, DVM, PhD

Sponsor: National Institutes of Health (NIH)

Purpose:The Emory University Rollins School of Public Health is doing a research study of men whouse the Internet. The purpose of this study is to learn about behaviors that put people at risk for gettingdiseases transmitted by having sex (like STDs and HIV). The information we learn from this studywill help create better HIV prevention programs for people in our community.

Studyprocedures:If you agree to be in the study, you will take a 10 to 20 minute Internet survey. All of your answers to the survey questions will be confidential.

Inthe survey you will be asked questions about the following topics:
a.Your age, gender, zip code, and education
b.The ways in which you use the Internet
c.Your sex behavior
d.If you have used drugs
e.Your experiences with HIV testing
f.Your use of technology
g.Your interest in participating in future HIV prevention research

Youwill take this survey on a computer. The web site where the survey is located is secure and any answers you give us will be safely stored on a password-protected computer. Researchers will not be able to link your responses to your MySpace page. You can refuse to answer a question at any time. If you don’t answer a question, or if you want to end the survey, there will be no penalty to you.

Basedon your responses to this survey, you may be asked to participate in a follow-upsurveythat you will take in 3 months. If you are asked and agree to participate in the follow-upsurvey,we will ask that you provide an email address so that we may contact you in 3 months totakethat survey.

Risksand Discomforts: This is an anonymous survey and all of your answers will remain confidential. Some of the questions in the survey are about sex and drugs and may make you feel uncomfortable. Your participation is completely voluntary and you can refuse to answer a question at any time.

Benefits:There are no direct benefits by being in this study. The information from the Internet study may be used to improve HIV testing and prevention programs for people in our community.

Confidentiality:Being in this study is anonymous. Your answers will be labeled with a study number

only.The information you give us will be grouped with survey answers from other persons. Researchers will not be able to link your responses to your MySpace page. If you are asked and agree to participate in the follow-up survey, you will be asked to provide an email address. You do not have to participate in the follow-up survey and you can still participate in this survey even if you do not want to provide an email address for the follow-up survey.

Tohelp us protect your privacy, we have a Certificate of Confidentiality from the National Institutes of Health. With this Certificate, the researchers cannot be forced to disclose information that may identify you, even by a court subpoena, in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings.

Coststo you: It will not cost you anything to be in this study other than your time.

Compensation:If you agree to take this survey, you will not receive any compensation (money or otherwise) for taking this survey.

Alternativesto being in the study: The other choice you can make is to refuse to be in the study—say “No.” You will not be penalized in any way, and you will not lose any rights, services or benefits if you refuse.

HIPAAAuthorization to Use or Disclose Health Information

Theprivacy of your health information is important to us. In protecting your health information that identifies you, we will follow all requirements of the Health Insurance Portability and Accountability Act (“HIPAA” for short) that apply. This section of the form will let you know how we will use any health information that you give us for this study that could potentially identify you. The only information that you give us for this study that could potentially identify you is your email address. You will only provide your email address if you choose to participate in the follow-up study. If you do not choose to participate in the study and provide and email address, we will collect no information from you that could potentially be used to identify you.

Pleaseread this section of the form carefully and if you agree with it, sign the form at the end.

People That Will Use or Disclose Your Health Information that Identifies You and Purpose of Use/Disclosure: The following people and groups will use and disclose your health information in connectionwith the study. In thisform, all of these people and groups are called the “Information Users”: The principal investigator,hisresearch staff and people and organizations that he uses to help him conduct the ResearchStudywill use and disclose your health information to do this work.

TheNational Institutes of Health (NIH) is the sponsor of this Research. The sponsor and all other people and organizations that the sponsor retains to help it conduct and oversee the Research Study may use and disclose your health information to make sure that the research is being done correctly and to collect and analyze the results of the research.
Thereare a number of University persons/units, government agencies and other individuals and organizations that may use and disclose your health information to make sure that the Research Study is being conducted correctly and safely, and to monitor and regulate the research or public health issues. These people and organizations include the following: the Emory University Institutional Review Board; the Emory University Office for Clinical Research; the Emory University Office of Research Compliance; research monitors and reviewers; data safety monitoring boards; any government agencies who regulate the research including the Office of Human Subjects Research Protections, and public health agencies.

Bysigning this document you agree to allow any of these Information Users to use or disclose your health information that may identify you in order to conduct the Research Study, or to monitor or regulate research. In addition, we will comply with any laws that require us to disclose your health information, such as laws that require us to report child abuse or elder abuse.

Wealso will comply with legal requests, or orders that that require us to disclose your health information, such as subpoenas or court orders. Finally, we may share your health information with a public health authority that the law authorizes to collect or receive such information for the purpose of preventing or controlling disease, injury or disability and/or conducting public health surveillance, investigations or interventions.

Descriptionof Health Information that Identifies You that Will be Used or Disclosed
TheInformation Users may use or disclose health information about you from the answers you provideto the survey questions.

Revokingyour Authorization

Youdo not have to sign this Authorization. In addition, if you sign this Authorization, later, you may change your mind at any time and revoke (take back) this Authorization. If you want to revoke this Authorization you must write to:
PatrickSullivan, DVM, PhD
Rollins School of Public Health
1518Clifton Road
Atlanta,GA 30322

Ifyou revoke your Authorization, the Researchers will not collect any more health information that identifies you, but they may use or disclose identifiable information that you already gave them in order to notify any of the other Information Users that you have taken back your authorization; to maintain the integrity or reliability of the Research Study; and to comply with any law that they are required to obey.

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Ifyour identifying information is removed from your health information, then the information thatremains will not be subject to this authorization or covered by HIPAA, and it may be used or disclosedto other persons or organizations, and/or for other purposes.

ExpirationDate

Thisauthorization will expire when data analysis for this study is complete.
Contact Information

Ifyou have problems, questions, complaints, or concerns about the study, please contact theinvestigator in charge, Dr. Patrick Sullivan at (404) 727-2038; email websurvey@emory.edu.

Ifyou have problems, questions, complaints or concerns about your participation as a research participant, please call the Emory Institutional Review Board (IRB). An IRB is a group of people that watches over the rights and safety of people that agree to be in research studies. The Emory IRBcontact information is: Toll-free phone: 1-877-503-9797 or (404) 712-0720; email irb@emory.edu; or write to the office at 1599 Clifton Road, Atlanta GA 30322.

Statementof consent

Beingin this study is entirely up to you. You have the right to refuse to be in the study or to stop

taking the survey at any time. Please print a copy of this form for your records.

4.Please read the above information about the study. Then, indicate whether you consent to participate in the study. (Required)

- ○ Ihave read the information above. I consent to participate in the survey
- ○ Ido not consent to participate in the survey

Clickhere to link to a PDF of the entire consent, to read or print:

Link to PDF of Consent Form

Race and sexual orientation

5.Do you consider yourself to be Hispanic or Latino?

- ◯ Yes
- ◯ No
- ◯ Don'tKnow
- ◯ Prefernot to answer

6.Which racial group do you consider yourself to be in?

- ◯ Asian/PacificIslander
- ◯ Black/African-American
- ◯ White/Caucasian
- ◯ NativeAmerican/Alaska Native
- ◯ Multi-Racial
- ◯ Prefernot to answer
- ◯ Other

7.You indicated that you are mutliracial. Please check all of the racial groups your consider yourself to be in.

- ☐ Asian/PacificIslander
- ☐ Black/African American
- ☐ White/Caucasian
- ☐ AmericanIndian/Alaskan Native
- ☐ Other

8.What is your zip code?

Education and identity

9.What is the highest grade in school you completed?

- ○ College,post graduate, or professional school
- ○ Somecollege, Associate's degree, and/or Technical school
- ○ Highschool or GED
- ○ Some high school
- ○ Less than high school
- ○ Neverattended school
- ○ Don'tKnow
- ○ Prefernot to Answer

10.Do you think of yourself as:

- ○ Heterosexual or "Straight"
- ○ Homosexual, Gay
- ○ Bisexual
- ○ Other
- ○ Prefernot to answer

Outness and venue attendance

11.In the last 12 months, how often have you gone to a bar or dance club frequented by gay men?

- Neverattend
- Oncea month or less
- About once a week
- Several times a week
- Once a day or more
- Don't know
- Prefernot to answer

12.In the last 12 months, how often have you gone to a bathhouse or sex club frequented by gay men?

- Neverattend
- Oncea month or less
- About once a week
- Several times a week
- Once a day or more
- Don't know
- Prefernot to answer

Online sex seeking

13.In the past 12 months, have you gone online to meet sex partners?

- ◯ Yes
- ◯ No
- ◯ Prefernot to answer

14.How did you try to meet sex partners online? Check all that apply.

- ☐ Throughonline personal ads
- ☐ Throughonline chatrooms
- ☐ Byusing online communities or message boards
- ☐ Byvisiting web sites that are free of charge
- ☐ Byvisiting websites that require a paid subscription
- ☐ Other

Sexual activities

Thefollowing questions are about sexual activity. Remember that all of the information you share is confidential, and we don't want to know your name. It's important that your answers be as accurate as possible.

15.During the past 12 months, how many different men have you had anal or oral sex with ? Estimates are OK if you don't remember the exact number. (Required)

16.During the past 12 months, how many different women have you had vaginal or anal sex with? Estimates are OK if you don't remember the exact number. (Required)

Male partner types

Thisquestion asks about types of sex partners.

Amain partner is someone that you feel committed to above all others -- this is someone you might call your boyfriend, significant other, life partner, or husband.

Acasual partner is someone that you do not feel committed to above all others.

17.Of the [%%45:%%] male partners you had sex with in the past 12 months, how many were:

- ☐ mainpartners?
- ☐ casualpartners?
- ☐ Total

18.Was any of these [%%45:During the past %%] male sex partners an exchange partner -- that is a partner that you have sex with in exchange for money, drugs, food, or something else of value?

- ○ Yes
- ○ No
- ○ Don'tknow
- ○ Prefernot to answer

Male AI proportions

Complete this section only if: "NUMMSP" greater than or equal to 2

19.Of the [%%45:During the past %%] male partners you had anal or oral sex with in the past 12 months, how many did you meet on the Internet?

20.Of the [%%45:During the past %%] male partners you had anal or oral sex with in the past 12 months, how many did you have anal sex with?

Male proportion UAI COPY

21.Of your [%%49:Of the [%% %%] partners you had anal sex with in the past 12 months, how many did you have unprotected anal sex with? (This means that you or your partner did not use a condom at any time during sex).

22.In the past 12 months, did you have unprotected anal sex with your male anal sex partner? (This means that you or your partner did not use a condom at any time during sex).

- Yes
- No
- Don'tknow
- Prefernot to answer

Main Partner

Thefollowing questions are about your most recent male sex partner.This is the last man that you had sex with, and could be your main sex partner or a casual sex partner. By sex, we mean either oral or anal sex.

23.Please enter a nickname for this partner to help make the questions clearer. This should NOT be his real name – it could be his initials, or a nickname that you call him. This name will NOT be saved in your responses; it is just to help make the next few questions clearer.

SEXFREQ MAIN MALE

24.In what month and year did you first have sex with [%%54:Please enter a %%]?

Month

- Don'tknow
- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December

Year

- Don'tknow
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- 1999
- 1998
- 1997
- 1996
- 1995
- 1994
- 1993
- 1992
- 1991
- 1990
- 1989
- 1988
- 1987
- 1986
- 1985

25.In the past year, how many times have you had anal or oral sex with [%%54:Please enter a %%]?

- Onetime
- 2- 5 times
- 6- 10 times
- Morethan 10 times
- Idon't know
- Prefernot to answer

26.About how often did you have anal or oral sex with [%%54:Please enter a %%] over the past year?

- Aboutonce a month
- 2or 3 times a month
- Aboutonce a week
- 2or 3 times a week
- Morethan 3 times a week

27.Have you had anal sex with [%%54:Please enter a %%] in the past 12 months?

- Yes
- No
- Don'tknow
- Prefernot to answer

28.Have you had unprotected anal intercourse with [%%54:Please enter a %%] in the past 12 months? This means that you or your partner did not use a condom at all during anal sex.

- Yes
- No
- Don'tknow
- Prefernot to answer

About main male partner

Nowwe have a few questions about [%%54:%%].

29.Where did you first meet [%%54:Please enter a %%]?

- ○ Bar/Club
- ○ Cruising area
- ○ Adult bookstore
- ○ Bathhouse, sex club or sex resort
- ○ Privatesex party
- ○ Circuit party or Rave
- ○ Internet
- ○ Onthe street
- ○ Through friends
- ○ At church
- ○ School or work
- ○ Througha personal ad in a newspaper
- ○ On a telephone chat line or dating line
- ○ Other

30.What is [%%54:Please enter a %%]’s current age?

Don'tknow
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41

31.As far as you know, which of the following statements about[%%54:Please enter a %%]'s age is most true?

- ◯ Heis within a year of my age
- ◯ Heis at least 2 years younger than I am
- ◯ Heis 2-10 years older than I am
- ◯ Heis more than 10 years older than I am

32.As far as you know, does [%%54:Please enter a %%] consider himself to be Hispanic or Latino?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

33.As far as you know, what race does [%%54:Please enter a %%] consider himself to be?

- ◯ Asian/PacificIslander
- ◯ Black/African-American
- ◯ White/Caucasian
- ◯ NativeAmerican/Alaska Native
- ◯ Multi-Racial
- ◯ Declineto Respond
- ◯ Other

34.What kind of sex partner is [%%54:Please enter a %%]?

- ◯ Amain sex partner (Someone you feel committed to above all others)
- ◯ Acasual sex partner (Someone you do not feel committed to above all others)

35.Is [%%54:Please enter a %%] an exchange partner (someone who you have sex with in exchange for money, drugs, food, or something else of value)?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

Last sex question

Thenext questions are about the last time you had sex with [%%54:%%].Remember, your answers are confidential.

36.In what month and year did you most recentlyhave sex with [%%54:Please enter a %%]?

Month

Don'tknow
January
February
March
April
May
June
July
August
September
October
November
December

Year

Don'tknow
2009
2008

37.The last time you had sex with [%%54:Please enter a %%], did you have receptive anal sex? (This means that you were the bottom)

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

38.Did [%%54:Please enter a %%] use a condom the last time you had receptive anal sex (bottomed)?Choose one.

- ◯ Hedid not use a condom
- ◯ Heused a condom part of the time
- ◯ He used a condom the whole time
- ◯ He used a condom, but it broke
- ◯ Don't Know
- ◯ Prefernot to Answer

39.The last time you had sex with [%%54:Please enter a %%], did you have insertive anal sex? (This means that you were the top).

- Yes
- No
- Don'tknow
- Prefernot to answer

40.Did you use a condom the last time you had insertive anal sex with [%%54:Please enter a %%]? Choose one.

- Idid not use a condom
- Iused a condom part of the time
- Iused a condom the whole time
- I used a condom, but it broke
- Don't Know
- Prefernot to Answer

Last Sex Situation

41.The last time you had anal or oral sex with [%%54:Please enter a %%], were you high or buzzed on any of the following?

- ◯ Alcohol
- ◯ Drugsnot prescribed by a doctor
- ◯ Bothalcohol and drugs not prescribed by a doctor
- ◯ Neitherdrugs nor alcohol
- ◯ Don'tKnow
- ◯ Prefernot to Answer

42.The last time you had anal or oral sex with [%%54:Please enter a %%], did you know his HIV status?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

43.The last time you had sex with [%%54:Please enter a %%], what was his HIV status?

- ◯ HIV-negative
- ◯ HIV-positive
- ◯ Prefernot to Answer

Knowledge of HIV status before first sex male partner

44.Before you had sex with [%%54:Please enter a %%] for the first time in [%%264:firstsexmo %%] [%%191:Year %%], did you discuss BOTH your HIV status AND his HIV status?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

Female partner types COPY

Complete this section only if: "NUMFSP" greater than or equal to 2

Thisquestion asks about types of sex partners for your female sex partners.

Amain partner is someone that you feel committed to above all others -- this is someone you might call your girlfriend, significant other, life partner, or wife.

Acasual partner is someone that you do not feel committed to above all others.

45.Of the [%%78:%%] female partners you had vaginal or anal sex with in the past 12 months, how many were:

- ☐ mainpartners?
- ☐ casualpartners?
- ☐ Total

46.Was any of these [%%78:During the past %%] female sex partners an exchange partner -- that is a partner that you have sex with in exchange for money, drugs, food, or something else of value?

- ○ Yes
- ○ No
- ○ Don'tknow
- ○ Prefernot to answer

Female proportion UAI only COPY

47.Of your [%%350:Of the [%% %%] female partners you had anal sex with in the past 12 months, how many did you have unprotected anal sex with? (This means that you did not use a condom at any time during sex).

48.Of your [%%354:Of the [%% %%] female partners you had vaginal sex with in the past 12 months, how many did you have unprotected vaginal sex with? (This means that you did not use a condom at any time during sex).

Female Partner nickname

Thenext questions are about your most recent female sex partner.She could be a main sex partner or a casual sex partner.

49.Please enter a nickname for you most recent female sex partner to help make the questions clearer. This should NOT be her real name – it could be her initials, or a nickname that you call her. This name will NOT be saved in your responses; it is just to help make the next few questions clearer.

SEXFREQ FEMALE

50.In what month and year did you first have sex with [%%92:Please enter a %%]?

Month

- Don'tknow
- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December

Year

- Don'tknow
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- 1999
- 1998
- 1997
- 1996
- 1995
- 1994
- 1993
- 1992
- 1991
- 1990
- 1989
- 1988
- 1987
- 1986
- 1985

51.In the past year, how many times have you had vaginal or anal sex with [%%92:Please enter a %%]?

- Onetime
- 2- 5 times
- 6- 10 times
- Morethan 10 times
- Idon't know
- Prefernot to answer

52.About how often did you have vaginal or anal sex with [%%92:Please enter a %%] over the past year?

- Aboutonce a month
- 2or 3 times a month
- Aboutonce a week
- 2or 3 times a week
- Morethan 3 times a week

About female partner

53.Where did you first meet [%%92:Please enter a %%]?

- ○ Bar/Club
- ○ Cruising area
- ○ Adult bookstore
- ○ Bathhouse, sex club or sex resort
- ○ Privatesex party
- ○ Circuit party or Rave
- ○ Internet
- ○ Onthe street
- ○ Through friends
- ○ At church
- ○ School or work
- ○ Througha personal ad in a newspaper
- ○ On a telephone chat line or dating line
- ○ Other

54.What is [%%92:Please enter a %%]’s current age?

Don'tknow
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41

55.As far as you know, which of the following statements about[%%92:Please enter a %%]'s age is most true?

- ◯ Sheis within a year of my age
- ◯ Sheis at least 2 years younger than I am
- ◯ Sheis 2-10 years older than I am
- ◯ Sheis more than 10 years older than I am

56.As far as you know, does [%%92:Please enter a %%] consider herself to be Hispanic or Latina?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

57.As far as you know, what race does [%%92:Please enter a %%] consider herself to be?

- ◯ Asian/PacificIslander
- ◯ Black/African-American
- ◯ White/Caucasian
- ◯ NativeAmerican/Alaska Native
- ◯ Multi-Racial
- ◯ Declineto Respond
- ◯ Other

58.What kind of sex partner is [%%92:During the past %%]?

- ◯ Amain sex partner (someone who you feel committed to above all others).
- ◯ Acasual sex partner (someone who you do not feel committed to above all others).

59.Is [%%92:Please enter a %%] an exchange sex partner (someone who you have sex with in exchange for money, drugs, food, or something else of value)?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

Female last sex questions

60.In what month and year did you most recentlyhave sex with [%%92:%%]?

Month

- Don'tknow
- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December

Year

- Don'tknow
- 2009
- 2008

61.The last time you had sex with [%%92:Please enter a %%], did you have vaginal sex? (This means that you put your penis in her vagina).

- Yes
- No
- Don'tknow
- Prefernot to answer

62.Did you use a condom the last time you had vaginal sex with [%%92:Please enter a %%]?

- Idid not use a condom
- Iused a condom part of the time
- Iused a condom the whole time
- I used a condom, but it broke
- Don't Know
- Prefernot to Answer

63.The last time you had sex with [%%92:Please enter a %%], did you have anal sex? (This means that you put your penis in her butt).

- Yes
- No
- Don'tknow
- Prefernot to answer

64.Did you use a condom the last time you had anal sex with [%%92:Please enter a %%]?

- Ididnot use a condom
- Iused a condom part of the time
- Iused a condom the whole time
- I used a condom, but it broke
- Don't Know
- Prefernot to Answer

Female partner last Sex Situation

65.The last time you had vaginal or anal sex with [%%92:Please enter a %%], were you high or buzzed on any of the following?

- ◯ Alcohol
- ◯ Drugsnot prescribed by a doctor
- ◯ Bothalcohol and drugs not prescribed by a doctor
- ◯ Neitherdrugs nor alcohol
- ◯ Don'tKnow
- ◯ Prefernot to Answer

66.The last time you had vaginal or anal sex with [%%92:Please enter a %%], did you know her HIVstatus?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

67.The last time you had sex with [%%92:Please enter a %%], what was her HIV status?

- ◯ HIV-negative
- ◯ HIV-positive
- ◯ Prefernot to Answer

Knowledge of HIV status before first sex male partner COPY

68.Before you had sex with [%%92:Please enter a %%] for the first time in [%%265:FPsexmo %%] [%%198:Year %%], did you discuss BOTH your HIV status AND her HIV status?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

69.Have you told [%%92:Please enter a %%] that you also have sex with men?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Refuseto answer

HIV testing

Nowwe'll ask you a few questions about getting tested for HIV.An HIV test checks whether someone has the virus that causes AIDS.

70.Have you ever been tested for HIV?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Refuseto answer

71.In what month and year did you have your most recent HIV test?

Month

Don'tknow
January
February
March
April
May
June
July
August
September
October
November
December

Year

Don'tknow
2009
2008
2007
2006
2005
2004
2003
2002
2001
2000
1999
1998
1997
1996
1995
1994
1993

72.How likely is it that you'll get tested for HIV in the next 12 months?

- ◯ Verylikely
- ◯ Somewhat likely
- ◯ Somewhat unlikely
- ◯ Very unlikely

HIV last test details

73.When you got tested in [%%268:testmo %%] [%%205:Year %%], where did you get tested?

- Privatedoctor’s office (including HMO)
- Community health center/public health clinic
- HIV counseling and testing site
- HIV/AIDSstreet outreach program/Mobile Unit
- Hospital(inpatient)
- Emergency room
- Sexuallytransmitted disease clinic
- Drug treatment program
- Correctional facility (jail or prison)
- Blood bank/Plasma center
- Military
- At home
- Other

74.What was the result of your most recent HIV test in [%%268:testmo %%] [%%205:Year %%]?

- Negative Positive
- Indeterminant/Inconclusive
- Didn'tget the results of my last HIV test
- Prefernot to Answer

At home testing questions

Imaginethat, after taking an online survey like this one, you were offered a free, anonymous at-home HIV test. The test would be mailed to you at home. You would collect a few drops of blood by pricking your finger, and send it to the laboratory in a prepaid mailer. Once the laboratory received the specimen, you would be able to call in to a toll-free number in 5 days to get your HIV test result.

75.How likely would you be to agree to take an at-home HIV test like this?

- Verylikely
- Somewhat likely
- Somewhat unlikely
- Very unlikely

Reasons not to test at home page

76.What are some of the reasons that you would be unlikely to take an anonymous, at-home HIV test?Check all that apply.

- ☐ I’mnot sure an at-home test would be accurate
- ☐ Ilive with people who might see the test kit arrive
- ☐ I’vebeen tested very recently
- ☐ Iwould not want to give my mailing address to receive the test kit
- ☐ Iwould rather talk to a counselor when I get an HIV test
- ☐ Iwould not want to stick my finger to get a drop of blood
- ☐ Idon’t think I need an HIV test
- ☐ Idon’t want to know if I am HIV-positive
- ☐ OtherReason

Prioritize reason not to take test

77.Of the reasons below that you listed as reasons not to take a free at home HIV test, which is the most important reason?

Health care

Nowwe’ll ask you some questions about health care.

78.Have you visited a doctor, nurse or health care provider in the past 12 months?

- Yes
- No
- Don'tknow
- Prefernot to answer

79.When you visited a doctor, nurse, or health care provider in the past 12 months, did you tell the health care provider that you have sex with men?

- Yes
- No
- Don'tknow
- Prefernot to answer

80.During the past 12 months, did the doctor, nurse or health care provider or someone in their office recommend that you get an HIV test?

- Yes
- No
- Don'tknow
- Prefernot to answer

STD testing

81.In the past 12 months, have you been tested for any STDs, such as syphilis, gonorrhea, or chlamydia?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

82.Which STDs have you been tested for in the past 12 months?

- ☐ Syphilis
- ☐ Gonorrhea
- ☐ Chlamydia
- ☐ Other STD:

STD results

83.In the past 12 months, has a doctor or nurse told you that you had any of the following (check all that apply)

Use of mobile technologies

Thenext several questions are about how you use technologies.

84.Do you currently have a mobile phone (cell phone) with activated service?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

85.How many mobile phones with active service do you currently have?

Mobile service plans

Youindicated that you have [%%422:How many mobile %%] mobile phones with active service. For the next several questions, please think about the mobile phone that you are most likely to use for personal calls or text messages.

86.What kind of service plan do you have for this mobile phone?

- Ihave a prepaid account, where I buy credits and then use them.
- Ihave a service contract where I pay a bill to the phone company each month for my service
- Mycompany pays for my cell phone
- Don’tKnow
- Prefernot to Answer

Texting frequency

87.In the past 12 months, have you used your mobile phone to send or receive text messages (SMSor texting)?

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

88.About how many text messages do you send or receive every day with this phone?

- ◯ Morethan 10 texts per day
- ◯ 6- 10 texts per day
- ◯ 1- 5 texts per day
- ◯ Idon’t text every day
- ◯ Don’tKnow
- ◯ Prefernot to Answer

89.About how often do you send or receive text messages with this phone?

- ◯ Afew times a week
- ◯ A few times a month
- ◯ A few times a year
- ◯ Don't know
- ◯ Prefernot to answer

Texting plans

90.Does your current cell phone plan include text messaging?

- ◯ Yes,I have unlimited text messaging
- ◯ Yes,I have a set number of included text messages each month
- ◯ No,I pay for each text message I send or receive
- ◯ Don'tknow
- ◯ Prefernot to answer

91.Would you be willing to receive text messages on your phone as part of an HIV research study, if it did not cost you anything to receive the messages?

- ◯ Yes
- ◯ No
- ◯ Don'tKnow
- ◯ Prefernot to Answer

CVCT testing

Thelast questions are about HIV testing programs.

Insome countries in Africa, couples that live together can get HIV tested together, where both partners talk with a counselor together, get tested together, get their HIV test results back together, and then talk to a counselor about keeping safe as a couple.

Rightnow, this kind of couples HIV testing is not offered in most places in the United States.

92.If couples testing where you and a sex partner got your HIV test results back together were available in the United States, how likely is it that you would be HIV tested together with a male sex partner in the next year?

- ◯ Woulddefinitely get tested with a partner
- ◯ Would probably get tested with a partner
- ◯ Probably wouldn’t get tested with a partner
- ◯ Definitely wouldn’t get tested with a partner
- ◯ Don’t know
- ◯ Prefernot to answer

CVCT reasons not to participate

93.What are the reasons why you and your sex partner would not get tested together and get your results back together? Check all that apply.

- ☐ Idon’t want my partner to know my HIV status
- ☐ Iwould rather learn my own status first, then tell my partner
- ☐ Idon’t want to know my partner’s HIV status
- ☐ Thecounselor could ask me questions that I wouldn’t want to answer with my partner there
- ☐ AfraidI might be positive
- ☐ Afraidmy partner might be positive
- ☐ Iam not at risk for HIV
- ☐ Mypartner would not want to be tested together, even if I wanted to be tested together
- ☐ Mypartner is not at risk for HIV
- ☐ Iam in a monogamous relationship
- ☐ Would be hard to schedule time together
- ☐ Don’t need to be tested
- ☐ Someother reason
- ☐ Idon't have a regular male sex partner

Prioritize reasons not to test

94.You mentioned several important reasons that you might not get tested together with a partner. Which of these if the most important reason why you and your partner probably would not get tested together?

CVCT reasons to participate

95.What are the most important reasons why you and your sex partner would get tested together and get your results back together? Check all that apply.

- ☐ Wewould both know each other's HIV status
- ☐ Iwould be confident that I knew his HIV status
- ☐ Ifwe were both negative, we could stop using condoms
- ☐ Wouldgive us a chance to talk about rules for our relationship
- ☐ It would help to have a counselor if one of us was positive
- ☐ Would strengthen us as a couple
- ☐ Tosupport each other
- ☐ Toprotect my partner if I am positive
- ☐ Toprotect myself if my partner is positive
- ☐ Someother reason

Prioritize reasons to test

96.You mentioned several important reasons that you might get tested together with a partner. Which of these if the most important reason why you and your partner probably would get tested together?

Randomize to followup

97.You are eligible to participate in a follow-up survey in 3 months. The follow-up survey will last about 10 minutes, and we would email you a reminder and a web link to the follow-up survey about 3months from now.

Areyou willing to take the follow-up survey? (Required)

- ○ Yes
- ○ No

Signup for FU survey

Sothat we may securely re-contact you with the link for the follow-up survey, please provide the following information. Your email address will NOT be linked to your responses to the survey.Your email will not be used for any purpose other than to invite you to participate in the follow-up survey, and will not be shared with any other person or organization for any purpose.

Theemail reminder that we send will only invite you to a follow-up health survey, and will not make any mention about HIV prevention or sex.

98.Are you willing to provide an email address to participate in the followup survey? (Required)

- ◯ Yes
- ◯ No

99.Please enter your email address. Entering your email address is required for participation in the followup survey. (Required)

Why not provide email address

100.Which of the following describes the most important reason why you didn’t provide an email address?

- ◯ Imeant to provide an email address; please take me back to that screen.
- ◯ I was worried that I would get a lot of junk email or spam
- ◯ Iwas worried that my email address would be sold to a mailing list
- ◯ Iwas worried that someone else who sees my email would read an email about the study
- ◯ Iwas worried that the researchers could figure out who I am from my email address
- ◯ Someother reason

Characteristics of email address

101.Which of the following best describe how you use this email address? Check all that apply.

- ☐ Itis a work email address
- ☐ Itis a personal email address
- ☐ Itis a school email address
- ☐ Iuse this email use to communicate with friends
- ☐ Iuse this email to communicate with family
- ☐ Iuse this email address to manage financial accounts or order things on the web
- ☐ Iuse this email to talk to people I hook up with online

102.How often do you normally check this email account for new mail?

- ◯ Everyday
- ◯ Atleast 3 or 4 times each week
- ◯ Aboutonce a week
- ◯ About once a month
- ◯ Less than once a month
- ◯ Don’t Know
- ◯ Prefernot to Answer

103.When did you first get this email address?

- ◯ Inthe past week
- ◯ In the past month
- ◯ In the past year
- ◯ Over a year ago
- ◯ Don't know
- ◯ Prefernot to answer

Reasons for not participating

104.What are the reasons that you do not want to participate in the followup survey? Check all that apply.

- [ ] PrivacyConcerns
- [ ] Someonemight see the link to the followup survey in my email and access the survey
- [ ] Iam worried about providing an email address to the researchers
- [ ] OtherConcerns
- [ ] I'mnot interested in this type of survey
- [ ] Toobusy
- [ ] Questionsin this survey made me uncomfortable
- [ ] Thissurvey was too long
- [ ] Someother reason

Main reason not to participate

105.Which is the most important reason that you do not want to participate in the followup survey?

Hypothetical participation

106.Suppose that, after finishing a survey like the one you have just taken, you were invited to participate in a follow-up survey in 3 months. The follow-up survey would last about 10 minutes, and we would email you a reminder and a web link to the follow-up survey about 3 months from now.A payment of $20.00 would be provided to you through PayPal or as an Amazon.com or Target.com electronic gift card for your participation.
Wouldyou be willing to take a follow-up survey like this for a $20.00 payment?(Required)

- ◯ Yes
- ◯ No
- ◯ Don'tknow
- ◯ Prefernot to answer

Appendix C. IRB approval letter

EMORY UNIVERSITY

Institutional Review Board

FROM: Aryeh Stein, PhD
Co-Chair

TO: Patrick Sullivan, PhD
Principal Investigator

CC:			
	Diclemente	Ralph	Behavioral Science
	Khosropour	Christine	Public Health
	Luisi	Nicole	Pathology - Main
	Wingood	Gina	Behavioral Science

DATE: June 19, 2009

RE: **Notification of Amendment Approval**
AM3_IRB00014085
Amendment 3 for IRB Study #IRB00014085
Methods development of online HIV prevention research with black men who have sex with men (MSM)

This is your notification that your above referenced amendment was reviewed and APPROVED by the IRB on 6/19/2009.

Changes to Protocol Document(s)
Other changes

All correspondence and inquiries concerning this research study must include the IRB ID, the name of the Principal Investigator and the Study Title.

Sincerely,

Aryeh Stein, PhD
Co-Chair
This letter has been digitally signed

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