



American Men's Internet Survey (AMIS): Online HIV Behavioral Survey of Men Who Have Sex with Men United States, 2017



EMORY

ROLLINS
SCHOOL OF
PUBLIC
HEALTH

The *American Men's Internet Survey (AMIS)* online HIV behavioral survey of men who have sex with men is conducted by PRISM Health at Emory University, Atlanta, Georgia. Funding is provided through the MAC AIDS Fund.

This report is not copyrighted and may be reproduced without permission. Citation of this report is appreciated.

Suggested citation:

Emory University. *American Men's Internet Survey (AMIS): Online HIV behavioral survey of men who have sex with men, United States, 2017*. PRISM Health, Emory University, Atlanta, GA. Published August 2017.

For data requests and additional information:

Email: amis@emory.edu

Phone: 404-727-8799

Address: PRISM Health
1518 Clifton Road NE
Atlanta, Georgia 30322

Contents

Introduction

References

Tables

- 1 Characteristics of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017
- 2 Sexual behaviors with male partners of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017
- 3 Substance using behaviors of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017
- 4 Sexually transmitted infection testing and hepatitis vaccination of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS) 2017
- 5 HIV testing behaviors of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017
- 6 Testing location of last HIV test of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017
- 7 Participation in HIV prevention services of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017
- 8 Knowledge of pre-exposure prophylaxis (PrEP) and willingness to use PrEP of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

Introduction

Men who have sex with men (MSM) contribute to over half of the more than one million adults living with HIV in the United States[1]. Incidence estimates of HIV infection from 2008 to 2011 have shown an increase in the number of new infections among MSM [2], due to factors including high prevalence, sexual risk behaviors, and not being aware of HIV status. The National HIV Behavioral Surveillance System (NHBS), using venue-based sampling to collect risk behavior data from high-risk populations, has found continued sexual risk and drug use behaviors associated with increased HIV risk among MSM [3]. The Centers for Disease Control and Prevention (CDC) recommends annual HIV testing for sexually active MSM (and more frequent for those with multiple sexual partners) [4], but 2011 NHBS data found only about 67% of HIV-negative or unknown status MSM reported an HIV test in the previous 12 months [5]. Monitoring HIV risk and testing behaviors among MSM is important in understanding epidemic trends and the impact of prevention efforts, including behavioral interventions and strategies to increase HIV testing.

An increasing number of MSM are socializing and identifying sexual partners through the internet, and recruiting MSM online offers an opportunity to supplement venue-based studies, such as NHBS, by including at-risk MSM that may not be reached through traditional means, such as bars and clubs [6]. Additionally, online HIV behavioral surveys allow for the collection of data from a large sample of MSM with broad geographic diversity. This report summarizes findings from a large online HIV behavior survey among MSM. The *American Men's Internet Survey (AMIS)* is a multi-cycle cross-sectional online HIV behavioral survey collecting self-reported data on demographic characteristics, HIV risk behaviors, HIV testing behaviors, and use of HIV prevention services among internet-using MSM in the United States and dependent territories. Participants were recruited online through banner advertisements (ads), and were consented and screened for eligibility after clicking on the ads. Men were eligible for participation if they were 15 years of age or older, U.S. residents, reported ever having oral or anal sex with a man OR identify as gay or bisexual, and able to complete the survey in English. Men who were eligible to participate in the survey completed a self-administered online survey. The survey consisted of a core questionnaire that every participant answered and 2 different subset questionnaires that participants were randomized to at the start of the survey. The core questions were comprised of the following domains: demographics, sexual behavior, HIV testing history, drug and alcohol use, acute HIV infection and other infections, and HIV prevention services exposure. The randomized question subsets were comprised of two separate modules about pre-exposure prophylaxis (PrEP): Subset 1 – PrEP questions used in earlier AMIS survey cycles; Subset 2- revised PrEP questions with updated terminology. Participants could decline to answer any question. Data were collected using encrypted HIPAA-compliant survey software and stored on an access-restricted secure data server. AMIS is a national research study conducted by Emory University: the procedures and materials were reviewed and approved by Emory's Institutional Review Board.

The tables in this report include data from the 2017 cycle of AMIS, collected between July 2017 and November 2017, among respondents reporting residence in United States. For demographic categories with small cell sizes, data were collapsed or suppressed to prevent identification using the following criteria: 1) all cell sizes <5 in Table 1 were suppressed or categories were combined into smaller subgroups, 2) for all remaining tables, cell sizes in the sample number (denominator) <5 were suppressed or combined into smaller subgroups, 3) where the sample size of a subgroup with <5 in the sample could be determined based on the sample numbers in the remaining subgroups, all data were suppressed. Study questions and full categories are available in Appendix A. These data were collected as a convenience sample and may not be representative or generalizable to all MSM living in a given state.

References

1. Purcell DW, Johnson CH, Lansky A, Prejean J, Stein R, Denning P, *et al.* Estimating the population size of men who have sex with men in the United States to obtain HIV and syphilis rates. *Open AIDS J* 2012,**6**:98-107.
2. CDC. Estimated HIV incidence in the United States, 2007-2010. In: *HIV Surveillance Supplemental Report*. Atlanta, GA: Centers for Disease Control and Prevention; 2012.
3. Finlayson TJ, Le B, Smith A, Bowles K, Cribbin M, Miles I, *et al.* HIV risk, prevention, and testing behaviors among men who have sex with men--National HIV Behavioral Surveillance System, 21 U.S. cities, United States, 2008. *MMWR Surveill Summ* 2011,**60**:1-34.
4. Branson BM, Handsfield HH, Lampe MA, Janssen RS, Taylor AW, Lyss SB, *et al.* Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR Recomm Rep* 2006,**55**:1-17; quiz CE11-14.
5. Centers for Disease C, Prevention. HIV testing and risk behaviors among gay, bisexual, and other men who have sex with men - United States. *MMWR Morb Mortal Wkly Rep* 2013,**62**:958-962.
6. Sanchez T, Smith A, Denson D, Dinunno E, Lansky A. Internet-based methods may reach higher-risk men who have sex with men not reached through venue-based sampling. *Open AIDS J* 2012,**6**:83-89.

Table 1. Characteristics of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

		N	%
Race/ethnicity*	Black, non-Hispanic	654	6.5
	Hispanic	1538	15.3
	White, non-Hispanic	6955	69.2
	Other or multiple races	687	6.8
Age (years)	15-24	2726	27.1
	25-29	1246	12.4
	30-39	1592	15.8
	40 or older	4485	44.6
Education	< HS diploma	419	4.2
	HS diploma or equivalent	1149	11.4
	Some college or technical degree	2954	29.4
	College degree or postgraduate educ	5391	53.6
Household income	\$0 to \$19,999 annually (\$0 to \$1667	1059	10.5
	\$20,000 to \$39,999 annually (\$1668	1537	15.3
	\$40,000 to \$74,999 annually (\$3334	2236	22.3
	\$75,000 or more annually (\$6251 or	3304	32.9
NCHS Urban/Rural category	Large central metro	4230	42.1
	Large fringe metro	2181	21.7
	Medium metro	2821	28.1
	Small metro	806	8.0

Percentages may not total 100% due to missing data

MSM=men who have sex with men

HS=high school

NCHS=National Center for Health Statistics

***Persons of Hispanic/Latino ethnicity may be of any race**

NOTE: data may be combined or suppressed due to small cell sizes

Table 1. Characteristics of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

		N	%
Self-reported HIV status	Positive	964	9.6
	Not positive	7180	71.4
	Unknown (includes never tested)	1905	19.0
Anal sex without a condom with a male partner, past 12 month	No	3288	32.7
	Yes	6761	67.3
Illicit substances used, past 12 months	No	6573	65.4
	Yes	3476	34.6
Total		10049	100.0

Percentages may not total 100% due to missing data

MSM=men who have sex with men

HS=high school

NCHS=National Center for Health Statistics

**Persons of Hispanic/Latino ethnicity may be of any race*

NOTE: data may be combined or suppressed due to small cell sizes

Table 2. Sexual behaviors with male partners of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

			Sexual behaviors with male partners in the past 12 months					
			No. in sample	Anal intercourse with a male partner without a condom		Anal intercourse without a condom with a male partner of discordant or unknown HIV status		
				N	%	N	%	
Not positive	Age (years)	15-24	2687	1665	62.0	476	17.7	
		25-29	1168	849	72.7	235	20.1	
		30-39	1420	1042	73.4	311	21.9	
		40 or older	3810	2424	63.6	705	18.5	
	Race/ethnicity*	Black, non-Hispanic	516	332	64.3	129	25.0	
		Hispanic	1399	953	68.1	288	20.6	
		Other or multiple races	634	398	62.8	121	19.1	
		White, non-Hispanic	6338	4186	66.0	1161	18.3	
	Total			9085	5980	65.8	1727	19.0
	Positive	Age (years)	15-24	39	29	74.4	22	56.4
25-29			78	70	89.7	38	48.7	
30-39			172	151	87.8	86	50.0	
40 or older			675	531	78.7	262	38.8	
Race/ethnicity*		Black, non-Hispanic	138	102	73.9	39	28.3	
		Hispanic	139	115	82.7	56	40.3	
		Other or multiple races	53	42	79.2	18	34.0	
		White, non-Hispanic	617	511	82.8	292	47.3	
Total			964	781	81.0	408	42.3	

Percentages may not total 100% due to missing data

MSM=men who have sex with men

*Persons of Hispanic/Latino ethnicity may be of any race

NOTE: data may be combined or suppressed due to small cell sizes

Table 3. Substance using behaviors of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

			<i>Substance use in the past 12 months</i>					
			<i>No. in sample</i>	<i>Used marijuana</i>		<i>Used illicit drugs other than marijuana</i>		
				<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	
Not positive	Age (years)	15-24	2687	1016	37.8	600	22.3	
		25-29	1168	394	33.7	297	25.4	
		30-39	1420	444	31.3	382	26.9	
		40 or older	3810	666	17.5	556	14.6	
	Race/ethnicity*	Black, non-Hispanic	516	132	25.6	74	14.3	
		Hispanic	1399	456	32.6	325	23.2	
		Other or multiple races	634	166	26.2	117	18.5	
		White, non-Hispanic	6338	1703	26.9	1274	20.1	
	Total			9085	2520	27.7	1835	20.2
	Positive	Age (years)	15-24	39	12	30.8	9	23.1
25-29			78	22	28.2	26	33.3	
30-39			172	62	36.0	70	40.7	
40 or older			675	159	23.6	180	26.7	
Race/ethnicity*		Black, non-Hispanic	138	28	20.3	24	17.4	
		Hispanic	139	41	29.5	42	30.2	
		Other or multiple races	53	10	18.9	15	28.3	
		White, non-Hispanic	617	172	27.9	198	32.1	
Total			964	255	26.5	285	29.6	

Percentages may not total 100% due to missing data

MSM=men who have sex with men

***Persons of Hispanic/Latino ethnicity may be of any race**

NOTE: data may be combined or suppressed due to small cell sizes

Table 4. Sexually transmitted infection testing and hepatitis vaccination of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

			<i>No. in sample</i>	<i>Sexually transmitted disease testing in the past 12 months</i>		<i>Ever received hepatitis vaccination</i>	
				<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Not positive	Age (years)	15-24	2687	875	32.6	1507	56.1
		25-29	1168	606	51.9	764	65.4
		30-39	1420	714	50.3	898	63.2
		40 or older	3810	1407	36.9	2010	52.8
	Race/ethnicity*	Black, non-Hispanic	516	248	48.1	267	51.7
		Hispanic	1399	609	43.5	799	57.1
		Other or multiple races	634	262	41.3	405	63.9
		White, non-Hispanic	6338	2409	38.0	3608	56.9
	Total		9085	3602	39.6	5179	57.0
	Positive	Age (years)	15-24	39	25	64.1	23
25-29			78	64	82.1	64	82.1
30-39			172	131	76.2	128	74.4
40 or older			675	421	62.4	467	69.2
Race/ethnicity*		Black, non-Hispanic	138	94	68.1	98	71.0
		Hispanic	139	97	69.8	98	70.5
		Other or multiple races	53	39	73.6	42	79.2
		White, non-Hispanic	617	401	65.0	437	70.8
Total			964	641	66.5	682	70.7

Percentages may not total 100% due to missing data

MSM=men who have sex with men

***Persons of Hispanic/Latino ethnicity may be of any race**

NOTE: data may be combined or suppressed due to small cell sizes

Table 5. HIV testing behaviors of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

		<i>No. in sample</i>	<i>Ever HIV tested</i>		<i>HIV tested in the past 12 months</i>	
			<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
<i>Race/ethnicity*</i>	Black, non-Hispanic	516	445	86.2	353	68.4
	Hispanic	1399	991	70.8	814	58.2
	White, non-Hispanic	6338	5244	82.7	3814	60.2
	Other or multiple races	634	489	77.1	398	62.8
<i>Age (years)</i>	15-24	2687	1478	55.0	1210	45.0
	25-29	1168	1034	88.5	846	72.4
	30-39	1420	1310	92.3	1032	72.7
	40 or older	3810	3508	92.1	2416	63.4
<i>Education</i>	< HS diploma	409	105	25.7	80	19.6
	HS diploma or equivalent	1062	607	57.2	452	42.6
	Some college or technical degree	2607	2112	81.0	1590	61.0
	College degree or postgraduate educ	4881	4434	90.8	3323	68.1
<i>Household income</i>	\$0 to \$19,999 annually (\$0 to \$1667	932	684	73.4	529	56.8
	\$20,000 to \$39,999 annually (\$1668	1368	1113	81.4	838	61.3
	\$40,000 to \$74,999 annually (\$3334	1991	1679	84.3	1249	62.7
	\$75,000 or more annually (\$6251 or	3050	2597	85.1	1898	62.2

Percentages may not total 100% due to missing data

MSM=men who have sex with men

HS=high school

NCHS=National Center for Health Statistics

***Persons of Hispanic/Latino ethnicity may be of any race**

NOTE: data may be combined or suppressed due to small cell sizes

Table 5. HIV testing behaviors of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

		<i>No. in sample</i>	<i>Ever HIV tested</i>		<i>HIV tested in the past 12 months</i>	
			<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
<i>NCHS Urban/Rural category</i>	Large central metro	3751	3229	86.1	2538	67.7
	Large fringe metro	1990	1515	76.1	1115	56.0
	Medium metro	2585	2035	78.7	1461	56.5
	Small metro	751	544	72.4	385	51.3
<i>Health insurance</i>	None	783	616	78.7	441	56.3
	Private only	6047	5106	84.4	3870	64.0
	Public only	1042	796	76.4	590	56.6
	Other/multiple	794	657	82.7	475	59.8
<i>Total</i>		9085	7330	80.7	5504	60.6

Percentages may not total 100% due to missing data

MSM=men who have sex with men

HS=high school

NCHS=National Center for Health Statistics

**Persons of Hispanic/Latino ethnicity may be of any race*

NOTE: data may be combined or suppressed due to small cell sizes

Table 6. Testing location of last HIV test of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

	Location of most recent HIV test	
	N	%
<i>Private doctor's office</i>	3432	48.5
<i>HIV counseling and testing site</i>	727	10.3
<i>Public health clinic/community health clinic</i>	1393	19.7
<i>Street outreach program/mobile unit</i>	251	3.5
<i>Sexually transmitted disease clinic</i>	122	1.7
<i>Hospital (inpatient)</i>	181	2.6
<i>Correctional facility (jail or prison)</i>	8	0.1
<i>Emergency room</i>	37	0.5
<i>At home</i>	623	8.8

Percentages may not total 100% due to missing data

MSM=men who have sex with men

NOTE: data may be combined or suppressed due to small cell sizes

Table 7. Participation in HIV prevention services of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

		<i>Prevention services received in the past 12 months</i>						
		<i>No. in sample</i>	<i>Received free condoms</i>		<i>Participated in group discussion</i>		<i>Participated in one-on-one prevention counseling</i>	
			<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
<i>Race/ethnicity*</i>	Black, non-Hispanic	516	290	56.2	42	8.1	114	22.1
	Hispanic	1399	743	53.1	85	6.1	249	17.8
	White, non-Hispanic	6338	2746	43.3	205	3.2	707	11.2
	Other or multiple races	634	321	50.6	29	4.6	118	18.6
<i>Age (years)</i>	15-24	2687	1293	48.1	163	6.1	344	12.8
	25-29	1168	612	52.4	54	4.6	200	17.1
	30-39	1420	700	49.3	53	3.7	222	15.6
	40 or older	3810	1599	42.0	100	2.6	446	11.7
<i>Education</i>	< HS diploma	409	127	31.1	26	6.4	47	11.5
	HS diploma or equivalent	1062	412	38.8	52	4.9	123	11.6
	Some college or technical degree	2607	1229	47.1	107	4.1	361	13.8
	College degree or postgraduate education	4881	2384	48.8	182	3.7	661	13.5
<i>Household income</i>	\$0 to \$19,999 annually (\$0 to \$1667 monthly)	932	498	53.4	50	5.4	172	18.5
	\$20,000 to \$39,999 annually (\$1668 to \$3333 monthly)	1368	663	48.5	76	5.6	215	15.7
	\$40,000 to \$74,999 annually (\$3334 to \$6250 monthly)	1991	889	44.7	61	3.1	266	13.4
	\$75,000 or more annually (\$6251 or more monthly)	3050	1381	45.3	100	3.3	336	11.0

Percentages may not total 100% due to missing data

MSM=men who have sex with men

HS=high school

NCHS=National Center for Health Statistics

***Persons of Hispanic/Latino ethnicity may be of any race**

NOTE: data may be combined or suppressed due to small cell sizes

Table 7. Participation in HIV prevention services of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

		<i>Prevention services received in the past 12 months</i>						
		<i>No. in sample</i>	<i>Received free condoms</i>		<i>Participated in group discussion</i>		<i>Participated in one-on-one prevention counseling</i>	
			<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
<i>NCHS Urban/Rural category</i>	Large central metro	3751	2016	53.7	172	4.6	592	15.8
	Large fringe metro	1990	842	42.3	75	3.8	210	10.6
	Medium metro	2585	1073	41.5	98	3.8	336	13.0
	Small metro	751	268	35.7	25	3.3	73	9.7
<i>Health insurance</i>	None	783	369	47.1	40	5.1	119	15.2
	Private only	6047	2821	46.7	239	4.0	787	13.0
	Public only	1042	493	47.3	46	4.4	165	15.8
	Other/multiple	794	370	46.6	29	3.7	98	12.3
<i>Total</i>		9085	4204	46.3	370	4.1	1212	13.3

Percentages may not total 100% due to missing data

MSM=men who have sex with men

HS=high school

NCHS=National Center for Health Statistics

**Persons of Hispanic/Latino ethnicity may be of any race*

NOTE: data may be combined or suppressed due to small cell sizes

Table 8. Knowledge of PrEP and willingness to use PrEP of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

		No. in sample	Heard of PrEP		Willing to use PrEP		Used PrEP	
			N	%	N	%	N	%
<i>Race/ethnicity*</i>	Black, non-Hispanic	516	377	73.1	242	46.9	72	14.0
	Hispanic	1399	935	66.8	716	51.2	152	10.9
	White, non-Hispanic	6338	4693	74.0	2801	44.2	824	13.0
	Other or multiple races	634	446	70.3	294	46.4	86	13.6
<i>Age (years)</i>	15-24	2687	1800	67.0	1580	58.8	147	5.5
	25-29	1168	944	80.8	530	45.4	206	17.6
	30-39	1420	1153	81.2	585	41.2	306	21.5
	40 or older	3810	2689	70.6	1429	37.5	497	13.0
<i>Education</i>	< HS diploma	409	169	41.3	227	55.5	7	1.7
	HS diploma or equivalent	1062	645	60.7	613	57.7	48	4.5
	Some college or technical degree	2607	1890	72.5	1286	49.3	265	10.2
	College degree or postgraduate education	4881	3819	78.2	1937	39.7	827	16.9
<i>Health insurance</i>	None	783	571	72.9	461	58.9	39	5.0
	Private only	6047	4606	76.2	2643	43.7	926	15.3
	Public only	1042	670	64.3	475	45.6	110	10.6
	Other/multiple	794	546	68.8	338	42.6	74	9.3

Percentages may not total 100% due to missing data

MSM=men who have sex with men

HS=high school

NCHS=National Center for Health Statistics

***Persons of Hispanic/Latino ethnicity may be of any race**

NOTE: data may be combined or suppressed due to small cell sizes

Table 8. Knowledge of PrEP and willingness to use PrEP of HIV-negative or unknown serostatus participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2017

		No. in sample	Heard of PrEP		Willing to use PrEP		Used PrEP	
			N	%	N	%	N	%
Household income	\$0 to \$19,999 annually (\$0 to \$1667 monthly)	932	652	70.0	496	53.2	76	8.2
	\$20,000 to \$39,999 annually (\$1668 to \$3333 monthly)	1368	1017	74.3	697	51.0	146	10.7
	\$40,000 to \$74,999 annually (\$3334 to \$6250 monthly)	1991	1451	72.9	860	43.2	269	13.5
	\$75,000 or more annually (\$6251 or more monthly)	3050	2328	76.3	1244	40.8	495	16.2
NCHS Urban/Rural category	Large central metro	3751	2857	76.2	1555	41.5	679	18.1
	Large fringe metro	1990	1390	69.8	900	45.2	190	9.5
	Medium metro	2585	1861	72.0	1291	49.9	237	9.2
	Small metro	751	473	63.0	374	49.8	49	6.5
Total		9085	6586	72.5	4124	45.4	1156	12.7

Percentages may not total 100% due to missing data

MSM=men who have sex with men

HS=high school

NCHS=National Center for Health Statistics

*Persons of Hispanic/Latino ethnicity may be of any race

NOTE: data may be combined or suppressed due to small cell sizes