



# **American Men's Internet Survey (AMIS): Online HIV Behavioral Survey of Men Who Have Sex with Men United States, 2014**



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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.

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## 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, 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 2014 cycle of AMIS, collected between October 2014 and April 2015, among respondents reporting residence in the 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 the US.

## 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), 2014**

		<b>N</b>	<b>%</b>
<b>Race/ethnicity*</b>	Black, non-Hispanic	415	4.5
	Hispanic	1308	14.1
	White, non-Hispanic	6819	73.7
	Other or multiple races	706	7.6
<b>Age (years)</b>	15-24	1389	15.0
	25-29	1221	13.2
	30-39	1962	21.2
	40 or older	4676	50.6
<b>Education</b>	< HS diploma	156	1.7
	HS diploma or equivalent	730	7.9
	Some college or technical degree	2948	31.9
	College degree or postgraduate education	5334	57.7
<b>Income</b>	\$0-19999	949	10.3
	\$20000-39999	1589	17.2
	\$40000-74999	2294	24.8
	\$75000 or more	3519	38.1
<b>Population density</b>	Urban	6300	68.1
	Rural	2774	30.0
<b>Self-reported HIV status</b>	Positive	1049	11.3
	Negative	6992	75.6
	Unknown	1207	13.1
<b>Anal sex without a condom with a male partner, past 12 month</b>	No	2938	31.8
	Yes	6310	68.2

**Percentages may not total 100% due to missing data**

**MSM=men who have sex with men**

**HS=high school**

**\*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), 2014**

		<b>N</b>	<b>%</b>
<b>Illicit substances used, past 12 months</b>	No	6559	70.9
	Yes	2689	29.1
<b>Total</b>		9248	100.0

**Percentages may not total 100% due to missing data**

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**HS=high school**

**\*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), 2014**

			<b>Sexual behaviors with male partners in the past 12 months</b>				
			<b>No. in sample</b>	<b>Anal intercourse with a male partner without a condom</b>		<b>Anal intercourse without a condom with a male partner of discordant or unknown HIV status</b>	
				<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
<b>HIV NEGATIVE OR UNKNOWN</b>	<b>Age (years)</b>	15-24	1321	870	65.9	274	20.7
		25-29	1111	820	73.8	236	21.2
		30-39	1711	1281	74.9	349	20.4
		40 or older	4056	2536	62.5	680	16.8
<hr/>							
	<b>Race/ethnicity*</b>	Black, non-Hispanic	323	202	62.5	80	24.8
		Hispanic	1136	777	68.4	276	24.3
		Other or multiple races	637	419	65.8	130	20.4
		White, non-Hispanic	6103	4109	67.3	1053	17.3
<hr/>							
	<b>Total</b>		8199	5507	67.2	1539	18.8
<hr/>							
<b>HIV POSITIVE</b>	<b>Age (years)</b>	15-24	68	62	91.2	38	55.9
		25-29	110	96	87.3	65	59.1
		30-39	251	199	79.3	111	44.2
		40 or older	620	446	71.9	202	32.6
<hr/>							
	<b>Race/ethnicity*</b>	Black, non-Hispanic	92	69	75.0	34	37.0
		Hispanic	172	134	77.9	73	42.4
		Other or multiple races	69	54	78.3	28	40.6
		White, non-Hispanic	716	546	76.3	281	39.2
<hr/>							
	<b>Total</b>		1049	803	76.5	416	39.7

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 3. Substance using behaviors of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2014**

			<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>
<b>HIV NEGATIVE OR UNKNOWN</b>	<b>Age (years)</b>	15-24	1321	424	32.1	269	20.4
		25-29	1111	303	27.3	259	23.3
		30-39	1711	411	24.0	382	22.3
		40 or older	4056	606	14.9	533	13.1
<hr/>							
	<b>Race/ethnicity*</b>	Black, non-Hispanic	323	60	18.6	50	15.5
		Hispanic	1136	256	22.5	212	18.7
		Other or multiple races	637	154	24.2	130	20.4
		White, non-Hispanic	6103	1274	20.9	1051	17.2
<hr/>							
	<b>Total</b>		8199	1744	21.3	1443	17.6
<hr/>							
<b>HIV POSITIVE</b>	<b>Age (years)</b>	15-24	68	21	30.9	17	25.0
		25-29	110	40	36.4	34	30.9
		30-39	251	76	30.3	91	36.3
		40 or older	620	136	21.9	144	23.2
<hr/>							
	<b>Race/ethnicity*</b>	Black, non-Hispanic	92	24	26.1	19	20.7
		Hispanic	172	46	26.7	44	25.6
		Other or multiple races	69	22	31.9	21	30.4
		White, non-Hispanic	716	181	25.3	202	28.2
<hr/>							
	<b>Total</b>		1049	273	26.0	286	27.3
<hr/>							

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), 2014**

			<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>
<b>HIV NEGATIVE OR UNKNOWN</b>	<b>Age (years)</b>	15-24	1321	512	38.8	772	58.4
		25-29	1111	579	52.1	725	65.3
		30-39	1711	754	44.1	1046	61.1
		40 or older	4056	1241	30.6	2187	53.9
	<b>Race/ethnicity*</b>	Black, non-Hispanic	323	156	48.3	167	51.7
		Hispanic	1136	553	48.7	633	55.7
		Other or multiple races	637	291	45.7	396	62.2
		White, non-Hispanic	6103	2086	34.2	3534	57.9
	<b>Total</b>		8199	3086	37.6	4730	57.7
<b>HIV POSITIVE</b>	<b>Age (years)</b>	15-24	68	57	83.8	49	72.1
		25-29	110	94	85.5	85	77.3
		30-39	251	203	80.9	194	77.3
		40 or older	620	393	63.4	439	70.8
	<b>Race/ethnicity*</b>	Black, non-Hispanic	92	72	78.3	67	72.8
		Hispanic	172	129	75.0	126	73.3
		Other or multiple races	69	53	76.8	50	72.5
		White, non-Hispanic	716	493	68.9	524	73.2
	<b>Total</b>		1049	747	71.2	767	73.1

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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), 2014**

		No. in sample	Ever HIV tested		HIV tested in the past 12 months	
			N	%	N	%
<i>Race/ethnicity*</i>	Black, non-Hispanic	323	287	88.9	213	65.9
	Hispanic	1136	981	86.4	706	62.1
	White, non-Hispanic	6103	5299	86.8	3454	56.6
	Other or multiple races	637	558	87.6	406	63.7
<i>Age (years)</i>	15-24	1321	892	67.5	699	52.9
	25-29	1111	997	89.7	742	66.8
	30-39	1711	1547	90.4	1037	60.6
	40 or older	4056	3689	91.0	2301	56.7
<i>Education</i>	< HS diploma	141	80	56.7	55	39.0
	HS diploma or equivalent	648	474	73.1	314	48.5
	Some college or technical degree	2539	2145	84.5	1413	55.7
	College degree or postgraduate education	4797	4372	91.1	2956	61.6
<i>Household income</i>	\$0-19999	803	647	80.6	475	59.2
	\$20000-39999	1408	1200	85.2	845	60.0
	\$40000-74999	2027	1783	88.0	1186	58.5
	\$75000 or more	3180	2867	90.2	1817	57.1
<i>Population density</i>	Urban	5530	4927	89.1	3397	61.4
	Rural	2521	2073	82.2	1296	51.4
<i>Health insurance</i>	None	734	650	88.6	436	59.4
	Private only	5757	5080	88.2	3396	59.0
	Public only	647	535	82.7	378	58.4
	Other/multiple	632	538	85.1	366	57.9

**Percentages may not total 100% due to missing data**

**MSM=men who have sex with men**

**HS=high school**

**\*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), 2014**

	<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>Total</i>	8199	7125	86.9	4779	58.3

*Percentages may not total 100% due to missing data*

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*HS=high school*

*\*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), 2014**

	<b>Location of most recent HIV test</b>	
	<b>N</b>	<b>%</b>
<i>Private doctor's office</i>	3290	47.2
<i>HIV counseling and testing site</i>	1004	14.4
<i>Public health clinic/community health clinic</i>	1244	17.8
<i>Street outreach program/mobile unit</i>	311	4.5
<i>Sexually transmitted disease clinic</i>	133	1.9
<i>Hospital (inpatient)</i>	184	2.6
<i>Correctional facility (jail or prison)</i>	7	0.1
<i>Emergency room</i>	41	0.6
<i>At home</i>	501	7.2

**Percentages may not total 100% due to missing data**

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**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), 2014**

		<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	323	179	55.4	24	7.4	78	24.1
	Hispanic	1136	663	58.4	84	7.4	225	19.8
	White, non-Hispanic	6103	2735	44.8	236	3.9	697	11.4
	Other or multiple races	637	353	55.4	36	5.7	102	16.0
<i>Age (years)</i>	15-24	1321	719	54.4	101	7.6	230	17.4
	25-29	1111	591	53.2	60	5.4	175	15.8
	30-39	1711	856	50.0	79	4.6	218	12.7
	40 or older	4056	1764	43.5	140	3.5	479	11.8
<i>Education</i>	< HS diploma	141	54	38.3	11	7.8	25	17.7
	HS diploma or equivalent	648	272	42.0	39	6.0	94	14.5
	Some college or technical degree	2539	1193	47.0	115	4.5	348	13.7
	College degree or postgraduate education	4797	2379	49.6	210	4.4	622	13.0
<i>Household income</i>	\$0-19999	803	419	52.2	51	6.4	148	18.4
	\$20000-39999	1408	708	50.3	74	5.3	217	15.4
	\$40000-74999	2027	1006	49.6	110	5.4	288	14.2
	\$75000 or more	3180	1418	44.6	108	3.4	336	10.6
<i>Population density</i>	Urban	5530	2879	52.1	270	4.9	813	14.7
	Rural	2521	967	38.4	100	4.0	267	10.6

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**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), 2014**

		<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>Health insurance</i>	None	734	350	47.7	25	3.4	97	13.2
	Private only	5757	2758	47.9	247	4.3	710	12.3
	Public only	647	335	51.8	44	6.8	133	20.6
	Other/multiple	632	288	45.6	38	6.0	99	15.7
<i>Total</i>		8199	3930	47.9	380	4.6	1102	13.4

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*HS=high school*

*\*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), 2014**

		No. in sample	Heard of PrEP		Willing to use PrEP		Ever used PrEP	
			N	%	N	%	N	%
<i>Race/ethnicity*</i>	Black, non-Hispanic	323	202	62.5	109	33.7	13	4.0
	Hispanic	1136	662	58.3	482	42.4	46	4.0
	White, non-Hispanic	6103	3895	63.8	1897	31.1	231	3.8
	Other or multiple races	637	388	60.9	237	37.2	22	3.5
<i>Age (years)</i>	15-24	1321	664	50.3	539	40.8	23	1.7
	25-29	1111	773	69.6	423	38.1	52	4.7
	30-39	1711	1202	70.3	568	33.2	86	5.0
	40 or older	4056	2508	61.8	1195	29.5	151	3.7
<i>Education</i>	< HS diploma	141	45	31.9	57	40.4	2	1.4
	HS diploma or equivalent	648	256	39.5	268	41.4	10	1.5
	Some college or technical degree	2539	1400	55.1	957	37.7	64	2.5
	College degree or postgraduate education	4797	3413	71.1	1416	29.5	235	4.9
<i>Household income</i>	\$0-19999	803	420	52.3	323	40.2	18	2.2
	\$20000-39999	1408	804	57.1	528	37.5	52	3.7
	\$40000-74999	2027	1249	61.6	722	35.6	75	3.7
	\$75000 or more	3180	2217	69.7	914	28.7	142	4.5
<i>Population density</i>	Urban	5530	3727	67.4	1830	33.1	263	4.8
	Rural	2521	1341	53.2	838	33.2	46	1.8

Percentages may not total 100% due to missing data

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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), 2014**

		No. in sample	Heard of PrEP		Willing to use PrEP		Ever used PrEP	
			N	%	N	%	N	%
<i>Health insurance</i>	None	734	478	65.1	205	27.9	22	3.0
	Private only	5757	3798	66.0	1903	33.1	244	4.2
	Public only	647	338	52.2	209	32.3	19	2.9
	Other/multiple	632	335	53.0	227	35.9	22	3.5
<i>Total</i>		8199	5147	62.8	2725	33.2	312	3.8

*Percentages may not total 100% due to missing data*

*MSM=men who have sex with men*

*HS=high school*

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

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