



American Men's Internet Survey (AMIS): Online HIV Behavioral Survey of Men Who Have Sex with Men United States, 2015



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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 2015 cycle of AMIS, collected between September 2015 and April 2016, 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 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), 2015

		N	%
Race/ethnicity*	Black, non-Hispanic	675	6.6
	Hispanic	1387	13.6
	White, non-Hispanic	7291	71.4
	Other or multiple races	864	8.5
Age (years)	15-24	2821	27.6
	25-29	1583	15.5
	30-39	1487	14.6
	40 or older	4326	42.3
Education	< HS diploma	298	2.9
	HS diploma or equivalent	1119	11.0
	Some college or technical degree	3425	33.5
	College degree or postgraduate education	5251	51.4
Income	\$0-19999	1327	13.0
	\$20000-39999	1844	18.0
	\$40000-74999	2280	22.3
	\$75000 or more	2928	28.7
NCHS Urban/Rural category	Urban	4101	40.1
	Suburban	2041	20.0
	Medium/small metro	3076	30.1
	Rural	988	9.7
Self-reported HIV status	Positive	955	9.3
	Negative	7143	69.9
	Unknown	2119	20.7
Anal sex without a condom with a male partner, past 12 month	No	3653	35.8
	Yes	6564	64.2

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), 2015

		N	%
Illicit substances used, past 12 months	No	7085	69.3
	Yes	3132	30.7
Total		10217	100.0

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 2. Sexual behaviors with male partners of participants in an online survey of MSM, United States, American Men's Internet Survey (AMIS), 2015

			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	%
HIV Negative or Unknown	Age (years)	15-24	2771	1713	61.8	524	18.9
		25-29	1476	1072	72.6	257	17.4
		30-39	1306	930	71.2	224	17.2
		40 or older	3709	2128	57.4	576	15.5
Race/ethnicity*							
		Black, non-Hispanic	514	316	61.5	92	17.9
		Hispanic	1235	804	65.1	248	20.1
		Other or multiple races	795	479	60.3	125	15.7
		White, non-Hispanic	6718	4244	63.2	1116	16.6
Total			9262	5843	63.1	1581	17.1
HIV Positive	Age (years)	15-24	50	40	80.0	18	36.0
		25-29	107	92	86.0	42	39.3
		30-39	181	147	81.2	68	37.6
		40 or older	617	442	71.6	201	32.6
Race/ethnicity*							
		Black, non-Hispanic	161	105	65.2	35	21.7
		Hispanic	152	113	74.3	48	31.6
		Other or multiple races	69	49	71.0	25	36.2
		White, non-Hispanic	573	454	79.2	221	38.6
Total			955	721	75.5	329	34.5

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), 2015

			<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>
HIV Negative or Unknown	Age (years)	15-24	2771	854	30.8	543	19.6
		25-29	1476	437	29.6	356	24.1
		30-39	1306	297	22.7	254	19.4
		40 or older	3709	539	14.5	469	12.6
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	Race/ethnicity*	Black, non-Hispanic	514	91	17.7	67	13.0
		Hispanic	1235	296	24.0	220	17.8
		Other or multiple races	795	170	21.4	135	17.0
		White, non-Hispanic	6718	1570	23.4	1200	17.9
<hr/>							
	Total		9262	2127	23.0	1622	17.5
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HIV Positive	Age (years)	15-24	50	15	30.0	14	28.0
		25-29	107	43	40.2	43	40.2
		30-39	181	53	29.3	69	38.1
		40 or older	617	124	20.1	147	23.8
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	Race/ethnicity*	Black, non-Hispanic	161	40	24.8	31	19.3
		Hispanic	152	39	25.7	49	32.2
		Other or multiple races	69	12	17.4	18	26.1
		White, non-Hispanic	573	144	25.1	175	30.5
<hr/>							
	Total		955	235	24.6	273	28.6

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), 2015

			<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>
<i>HIV Negative or Unknown</i>	<i>Age (years)</i>	15-24	2771	997	36.0	1569	56.6
		25-29	1476	753	51.0	981	66.5
		30-39	1306	639	48.9	789	60.4
		40 or older	3709	1179	31.8	1803	48.6
	<i>Race/ethnicity*</i>	Black, non-Hispanic	514	241	46.9	252	49.0
		Hispanic	1235	543	44.0	662	53.6
		Other or multiple races	795	326	41.0	492	61.9
		White, non-Hispanic	6718	2458	36.6	3736	55.6
	Total		9262	3568	38.5	5142	55.5
<i>HIV Positive</i>	<i>Age (years)</i>	15-24	50	44	88.0	38	76.0
		25-29	107	89	83.2	81	75.7
		30-39	181	152	84.0	133	73.5
		40 or older	617	400	64.8	410	66.5
	<i>Race/ethnicity*</i>	Black, non-Hispanic	161	116	72.0	104	64.6
		Hispanic	152	109	71.7	116	76.3
		Other or multiple races	69	47	68.1	47	68.1
		White, non-Hispanic	573	413	72.1	395	68.9
	Total		955	685	71.7	662	69.3

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 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), 2015

		<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	514	445	86.6	333	64.8
	Hispanic	1235	948	76.8	715	57.9
	White, non-Hispanic	6718	5314	79.1	3645	54.3
	Other or multiple races	795	620	78.0	465	58.5
<i>Age (years)</i>	15-24	2771	1599	57.7	1286	46.4
	25-29	1476	1269	86.0	903	61.2
	30-39	1306	1160	88.8	858	65.7
	40 or older	3709	3299	88.9	2111	56.9
<i>Education</i>	< HS diploma	282	89	31.6	63	22.3
	HS diploma or equivalent	1010	624	61.8	436	43.2
	Some college or technical degree	3055	2335	76.4	1629	53.3
	College degree or postgraduate education	4796	4216	87.9	2989	62.3
<i>Household income</i>	\$0-19999	1191	860	72.2	621	52.1
	\$20000-39999	1640	1299	79.2	900	54.9
	\$40000-74999	2064	1705	82.6	1200	58.1
	\$75000 or more	2688	2253	83.8	1516	56.4
<i>Population density</i>	Urban	3622	3092	85.4	2311	63.8
	Suburban	1874	1432	76.4	976	52.1
	Medium/small metro	2831	2147	75.8	1457	51.5
	Rural	924	645	69.8	408	44.2

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 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), 2015

		<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>Health insurance</i>	None	985	768	78.0	531	53.9
	Private only	6035	4950	82.0	3499	58.0
	Public only	974	730	74.9	510	52.4
	Other/multiple	888	710	80.0	492	55.4
<i>Total</i>		9262	7327	79.1	5158	55.7

Percentages may not total 100% due to missing data

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HS=high school

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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), 2015

	Location of most recent HIV test	
	N	%
<i>Private doctor's office</i>	3198	44.7
<i>HIV counseling and testing site</i>	937	13.1
<i>Public health clinic/community health clinic</i>	1520	21.3
<i>Street outreach program/mobile unit</i>	275	3.8
<i>Sexually transmitted disease clinic</i>	124	1.7
<i>Hospital (inpatient)</i>	217	3.0
<i>Correctional facility (jail or prison)</i>	14	0.2
<i>Emergency room</i>	54	0.8
<i>At home</i>	486	6.8

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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), 2015

		<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	514	299	58.2	62	12.1	125	24.3
	Hispanic	1235	704	57.0	107	8.7	255	20.6
	White, non-Hispanic	6718	2994	44.6	298	4.4	729	10.9
	Other or multiple races	795	431	54.2	73	9.2	136	17.1
<i>Age (years)</i>	15-24	2771	1522	54.9	248	8.9	424	15.3
	25-29	1476	736	49.9	83	5.6	205	13.9
	30-39	1306	665	50.9	78	6.0	198	15.2
	40 or older	3709	1505	40.6	131	3.5	418	11.3
<i>Education</i>	< HS diploma	282	84	29.8	18	6.4	33	11.7
	HS diploma or equivalent	1010	443	43.9	68	6.7	146	14.5
	Some college or technical degree	3055	1460	47.8	192	6.3	394	12.9
	College degree or postgraduate education	4796	2395	49.9	253	5.3	655	13.7
<i>Household income</i>	\$0-19999	1191	623	52.3	92	7.7	196	16.5
	\$20000-39999	1640	819	49.9	110	6.7	235	14.3
	\$40000-74999	2064	982	47.6	99	4.8	285	13.8
	\$75000 or more	2688	1175	43.7	121	4.5	288	10.7
<i>Population density</i>	Urban	3622	1987	54.9	217	6.0	598	16.5
	Suburban	1874	832	44.4	97	5.2	199	10.6
	Medium/small metro	2831	1248	44.1	182	6.4	358	12.6
	Rural	924	353	38.2	43	4.7	89	9.6

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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 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), 2015

		<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	985	475	48.2	60	6.1	139	14.1
	Private only	6035	2920	48.4	317	5.3	760	12.6
	Public only	974	439	45.1	77	7.9	164	16.8
	Other/multiple	888	427	48.1	58	6.5	127	14.3
<i>Total</i>		9262	4428	47.8	540	5.8	1245	13.4

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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), 2015

		No. in sample	Heard of PrEP		Willing to use PrEP		Ever used PrEP	
			N	%	N	%	N	%
<i>Race/ethnicity*</i>	Black, non-Hispanic	514	336	65.4	275	53.5	25	4.9
	Hispanic	1235	696	56.4	707	57.2	54	4.4
	White, non-Hispanic	6718	4254	63.3	3464	51.6	332	4.9
	Other or multiple races	795	499	62.8	454	57.1	43	5.4
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<i>Age (years)</i>	15-24	2771	1608	58.0	1666	60.1	81	2.9
	25-29	1476	1079	73.1	861	58.3	96	6.5
	30-39	1306	960	73.5	746	57.1	109	8.3
	40 or older	3709	2138	57.6	1627	43.9	168	4.5
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<i>Education</i>	< HS diploma	282	108	38.3	169	59.9	4	1.4
	HS diploma or equivalent	1010	428	42.4	544	53.9	13	1.3
	Some college or technical degree	3055	1822	59.6	1693	55.4	91	3.0
	College degree or postgraduate education	4796	3378	70.4	2431	50.7	341	7.1
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<i>Health insurance</i>	None	985	533	54.1	532	54.0	15	1.5
	Private only	6035	4082	67.6	3232	53.6	375	6.2
	Public only	974	486	49.9	499	51.2	32	3.3
	Other/multiple	888	522	58.8	445	50.1	30	3.4
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<i>Household income</i>	\$0-19999	1191	674	56.6	709	59.5	33	2.8
	\$20000-39999	1640	973	59.3	881	53.7	66	4.0
	\$40000-74999	2064	1366	66.2	1106	53.6	120	5.8
	\$75000 or more	2688	1815	67.5	1314	48.9	166	6.2

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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), 2015

		<i>No. in sample</i>	<i>Heard of PrEP</i>		<i>Willing to use PrEP</i>		<i>Ever used PrEP</i>	
			<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
<i>Population density</i>	Urban	3622	2514	69.4	1910	52.7	259	7.2
	Suburban	1874	1121	59.8	954	50.9	66	3.5
	Medium/small metro	2831	1680	59.3	1549	54.7	109	3.9
	Rural	924	463	50.1	482	52.2	20	2.2
<i>Total</i>		9262	5785	62.5	4900	52.9	454	4.9

Percentages may not total 100% due to missing data

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

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