Published in final edited form as:

Sex Transm Dis. 2011 January ; 38(1): 63–67. doi:10.1097/OLQ.0b013e3181ebd50f.

Physician Awareness of Sexual Orientation and Preventive Health Recommendations to Men Who Have Sex With Men

Andrew E. Petroll, MD, MS^{*,†} and Katie E. Mosack, PhD^{*,‡}

^{*}Department of Psychiatry and Behavioral Health, Center for AIDS Intervention Research, Medical College of Wisconsin, Milwaukee, WI

[†]Division of Infectious Diseases, Department of Medicine, Medical College of Wisconsin, Milwaukee, WI

[‡]Department of Psychology, University of Wisconsin – Milwaukee, Milwaukee, WI

Abstract

Background—Men who have sex with men (MSM) have unique health risks and needs.

Providers who assume patients to be heterosexual may be providing suboptimal care. This study sought (1) to describe primary care provider (PCP) knowledge of patients' sexual orientation and the demographic and provider-related factors associated with such knowledge; and, (2) to assess whether PCP knowledge of sexual orientation was associated with appropriate recommendations for preventive and diagnostic health care services.

Methods—A total of 271 MSM completed a cross-sectional survey. We measured MSMs' disclosure of their sexual orientation and demographic information, and PCP recommendations for preventive health services.

Results—Most participants' PCPs (72%) knew the participants' sexual orientation. Participants with female, gay, and/or younger PCPs were more likely to have disclosed their sexual orientation. Black men, men from rural areas, and men with incomes under \$15,000 per year were less likely to have disclosed their sexual orientation. PCP knowledge of sexual orientation was associated with a higher likelihood that PCPs recommended disease screening and preventive health measures: 59% versus 13% for human immunodeficiency virus testing, 32% versus 16% for hepatitis A or B vaccination. Inconsistencies were found between participants' self-reported risk behaviors and PCP recommendations.

Conclusions—Disclosure of sexual orientation is associated with several patient-related and provider-related characteristics. Lack of disclosure to providers significantly decreased the likelihood that appropriate health services were recommended to participants. Efforts to promote discussion of sexual orientation within the primary health care setting should be directed toward both PCPs and MSM.

Although the basic healthcare needs of men who have sex with men (MSM) are generally similar to those of other men, the prevalence of some infectious diseases is greater among MSM.¹⁻³ Therefore, additional diagnostic and preventive measures are recommended for the routine health care of MSM, including hepatitis A and B vaccinations, and often, testing for HIV and sexually transmitted infections (STIs).^{4,5} If healthcare providers assume patients are heterosexual, they may neglect essential screening, diagnostic, or preventive health measures. To provide optimal care and prevent acquisition and transmission of human immunodeficiency virus (HIV) and STIs, providers must be aware of each patient's sexual orientation and behaviors.^{6,7}

Primary care providers (PCPs) are not universally comfortable with homosexuality, although greater levels of comfort have been noted in more recent studies. Early studies found that 37% to 69% of physicians were uncomfortable with gay patients.⁸⁻¹⁰ More recent studies showed that 73% to 82% of physicians were comfortable treating gay patients, with variations by physician gender, specialty, and year of medical school graduation, with increasing comfort levels in more recent graduates.^{11,12} Despite these improvements, a substantial minority of providers report discomfort treating gay patients, have reservations about discussing sexual orientation, and would like further training in this area.¹³

These findings may be related to a lack of education regarding sexuality during medical school. Surveys of medical schools revealed that only half spent any curricular time covering homosexuality; the mean amount of time during a medical school curriculum was 2 to 3 hours.^{14,15} Of 101 medical schools, only 26 taught human sexuality as a required course.¹⁶

Suboptimal rates of sexual orientation disclosure to PCPs by MSM may also be a reflection of providers' discomfort. Rates of sexual orientation disclosure to PCPs among MSM range from 49% to 70%.¹⁷⁻²¹ Disclosure is seen more commonly among white men and individuals who believe their provider is homosexual. In addition, providers simply may not include sexual orientation within their usual pattern of history-taking. A multisite sampling of PCPs demonstrated that only 17% identified "sexual preference" as one of the routine questions they ask while taking a sexual history.²²

Physician attitudes toward homosexuality and MSM disclosure of sexual orientation to PCPs have been relatively well studied. However, the relationship between PCP awareness of sexual orientation and patient receipt of appropriate preventive health recommendations has not been adequately described. To address this gap, this study assesses associations between PCP awareness of a patient's sexual orientation and recommendations for preventive and diagnostic healthcare services, such as screening for STIs and HIV, and vaccinations for viral hepatitis. It also describes the prevalence of MSM reporting that their PCP was aware of their sexual orientation and the demographic- and provider-related factors associated with such awareness.

Methods

Study Procedures

This study was granted exemption from review by the institutional review boards at both authors' institutions because participants remained anonymous. Participant recruitment took place in June 2007 at a Gay Pride festival in a large Midwestern city. Research assistants invited festival attendees to participate in a survey regarding their healthcare experiences. Adults who reported having seen a PCP within the prior 5 years were eligible to participate. Participants provided informed consent, and then completed an anonymous, self-administered, written survey. On completion, participants received a small gift valued at \$5 in exchange for their time, approximately 10 minutes.

In total, 318 men who self-identified as gay or bisexual completed the survey. After removing responses from 45 men who reported being HIV-positive and from 2 incomplete surveys, data from 271 participants were analyzed. Because PCPs routinely elicit sexual risk behaviors from HIV-positive patients, we omitted data from HIV-positive participants to avoid confounding typical sexual orientation disclosure to PCPs with the more compulsory protocol of determining risk behaviors for HIV-positive patients.

Measures

Participant and Provider Demographics—We collected each participant's demographic information, sexual orientation, and relationship status (single vs. partnered). We asked each participant to consider his primary physician, nurse practitioner, or physician assistant as his PCP and to indicate what he believed to be his PCP's gender, ethnicity, age, and sexual orientation.

Participant Sexual History—Each participant was asked whether he had ever had sex with women, men, and/or transgender individuals, and the number of each during the prior 12 months.

Health Care Visit Characteristics—We asked about the setting of the respondents' PCP's office (e.g., urban, suburban, or rural; private office, hospital-based clinic, free clinic). Each participant was asked the following: (a) whether his PCP had discussed sexual behavior with same-sex partners; (b) whether his PCP had recommended testing for STIs, HIV testing, and hepatitis A or B vaccinations; and (c) whether he had received any of the following: STI testing (prior 12 months), an HIV test, or vaccination for hepatitis A or B.

PCP Knowledge of Participant Sexual Orientation—Each participant was asked, “Do you believe your doctor knows your sexual orientation?” Affirmative responders were asked how their PCP learned their sexual orientation (e.g., patient disclosed without being asked, physician asked, physician correctly assumed it).

Data Analysis

Statistical analyses were performed using SPSS 12.0 (SPSS Inc, Chicago, IL). The main variable of interest was the respondents' reporting of PCP knowledge of sexual orientation,

which was operationalized by a response of “Yes” to the question, “Do you believe your doctor knows your sexual orientation?” Those who responded “No” or “Not sure” were categorized as having PCPs unaware of their sexual orientation. We calculated frequencies for participants' reporting of PCP knowledge of sexual orientation, and then computed χ^2 , t test, and Spearman ρ analyses, as appropriate, to identify demographic factors related to PCPs' knowledge of each participant's sexual orientation. Factors from the univariate analyses, all of which were considered clinically relevant, were entered into a multiple regression model. Prevalence ratios (PR) were calculated for each variable. Chi-square analyses were also used to examine relationships between PCP knowledge of sexual orientation and key provider-initiated discussions or recommendations.

Results

Demographic Characteristics

The median age of participants was 35 years (range, 18–74). Approximately three-quarters were white as seen in Table 1. More than two-thirds had finished college and 96.7% had completed high school. Nearly 70% lived in an urban area, whereas 21.2% and 8.4% lived in suburban or rural areas, respectively. Approximately 60% earned more than \$30,000 annually.

PCP Knowledge of Sexual Orientation

Overall, 71.4% of the men reported that their PCPs were aware of their sexual orientation. Of these, 70.1% reported having disclosed their sexual orientation without being asked, 13.8% disclosed after the PCP asked, and 13.9% believed their PCP correctly assumed their sexual orientation. Most men reported that their PCP office was either in a private medical office (54.6%) or in a hospital-based outpatient clinic (41.3%). Very few participants reported having a PCP at a free clinic (3.7%).

Several patient-related factors were associated with PCP knowledge of participants' sexual orientation, as indicated in Table 1. PCP awareness was lower among black men compared with white men (PR, 0.48). Fewer rural men than urban and suburban men (PR, 0.71) and fewer men with incomes under \$15,000 than others (PR, 0.70) reported that their PCPs were aware of their sexual orientation. PCP awareness was also associated with increasing participant age (mean age = 37.2 [13.1] vs. 31.4 [11.5]). No significant trends were observed by relationship status (single vs. partnered), or by duration of time with the PCP. Multivariate analyses indicated that several patient-related factors were independently associated with PCP knowledge (Table 2). Participants who were black; who had an annual income less than \$15,000; who lived in rural areas; and those who had a high school education or less were all less likely to have a PCP aware of their sexual orientation than their counterparts. Increased PCP awareness also increased with the age of the respondent.

Two perceived PCP-related characteristics were associated with PCP awareness in multivariate analyses. Respondents with female PCPs were more likely to report that their PCP was aware of their sexual orientation (PR, 1.31), as were those who thought their PCP was gay (PR, 1.35).

Outcomes Associated With PCP Knowledge of Sexual Orientation

Respondents with “aware” PCPs were also more likely to have been recommended disease screening and preventive health measures by their PCPs. Their PCPs were more likely to have recommended HIV testing (59.0% vs. 13.2%, $\chi^2 = 46.20$, $P = 0.0001$) and STI testing (49.7% vs. 14.5%, $\chi^2 = 28.38$, $P = 0.0001$). Similarly, recommendations for hepatitis A or B vaccinations were more common among those with “aware” PCPs (32.3% vs. 15.8%, $\chi^2 = 7.46$, $P = 0.006$).

PCP awareness of a respondent's sexual orientation was associated with discussions of other aspects of sexual histories. Men with “aware” PCPs were more likely to have been asked about types of sexual behaviors with same-sex sexual partners (58.0% vs. 16.0%, $\chi^2 = 38.38$, $P < 0.0001$) and opposite-sex partners (30.9% vs. 17.3%, $\chi^2 = 4.971$, $P = 0.026$). These respondents were also more likely to have been asked about their risk for STIs or HIV (67.7% vs. 33.3%, $\chi^2 = 24.37$, $P < 0.0001$) and about sexual functioning (49.7% vs. 11.8%, $\chi^2 = 19.41$, $P < 0.0001$).

Sexual Risk and Health Promotion

We were interested in whether men with “aware” PCPs had received health recommendations consistent with their level of risk. Among men with “aware” PCPs, we compared men with zero or 1 sexual partner to men who had 2 or more sexual partners in the prior year. Those with 2 or more sexual partners, compared with those with one or none, were more likely to report that their PCP had recommend both STI (62.5% vs. 34.2%, $\chi^2 = 14.87$, $P = 0.0001$) and HIV testing (65.2% vs. 50.6%, $\chi^2 = 4.057$, $P = 0.044$), but not hepatitis A or B vaccinations (33.0% vs. 32.9%, $\chi^2 = 0.000$, $P = 0.986$). In addition, these men were more likely to have been tested for HIV (66.1% vs. 39.2%, $\chi^2 = 13.473$, $P = 0.0001$) and STIs (58.0% vs. 32.9%, $\chi^2 = 11.723$, $P = 0.001$).

Discussion

This study evaluated characteristics associated with PCP knowledge of sexual orientation among MSM. We found that patient-initiated disclosure, although the most common method of PCPs becoming aware of patients' sexual orientation, did not tell the entire story because it did not include those instances in which the PCP asked about or correctly assumed a patient's sexual orientation. In our sample, 28% of those MSM with “aware” PCPs did not actively disclose their sexual orientation. Rather, 14% disclosed after being asked by their physician, and another 14% report that their physician correctly assumes their sexual orientation to be MSM. The “PCP knowledge” variable we used is broader than the variable of “disclosure,” which evaluates only patient-initiated disclosures.

More than one-quarter of the sample (29%) reported that their PCP was unaware of their sexual orientation. PCP knowledge was more common among respondents with female providers and among those who perceived their PCP to be gay. PCP knowledge was higher among white and Latino participants, individuals with higher income, and those with urban or suburban residence. Rates of overall disclosure as well as differences in PCP knowledge between participants of different racial groups are similar to other published reports.^{20,23}

Our study did not seek to determine the reasons for these findings. However, we speculate that culturally variable factors, such as stigma and norms, contribute to these disparities. Additional research is needed to determine the barriers to discussions about sexual activity and sexual orientation within patient-PCP dyads. Such disparities are important because PCP knowledge of sexual orientation was associated with a greater likelihood that HIV screening and hepatitis vaccinations were recommended and that sexual activity and risks were discussed. This is especially significant because PCP recommendations for HIV screening can have significantly affect patients' testing rates.²⁴

Our findings suggest the need for further education among PCPs regarding recommended disease screening and prevention. Among participants with “aware PCPs,” 59% and 50% received recommendations for HIV and STI testing, respectively. Although these rates are moderate, the fact that nearly half of participants with “aware PCPs” had not received a recommendation for screening is certainly suboptimal. Also of serious concern is that our data also suggest that PCPs may be more aware of guidelines for testing for already acquired diseases than those diseases that can be prevented. For example, in comparison with the 59% and 50% patients who received recommendations for HIV and STI testing only 32% received recommendations for hepatitis A or B vaccinations.

Participants with “aware” PCPs were more likely to have a younger PCP, a female PCP, and/or a PCP they believed to be gay. Increased disclosure to younger PCPs may reflect an assumption that they are more likely to be comfortable with homosexuality, an assumption that is supported by a previous study.¹² Participants may also perceive a greater likelihood of acceptance among female PCPs. This is supported by Tellez's study, which demonstrated less homophobia among female physicians.¹¹ However, our result showing greater actual patient disclosure among men with female PCPs has not been noted previously. Our finding of higher rates of disclosure to PCPs who are perceived to be gay or lesbian is not unexpected.

Another important finding is the relatively low rate of PCP inquiry regarding sexual orientation compared with active disclosure by participants. Most individuals (70%) had actively disclosed their sexual orientation, whereas only 14% disclosed after being asked by their PCP. The predominance of patient-initiated discussion of sexual orientation has been noted elsewhere.¹⁴ Of course, it is difficult to discern whether PCPs eventually would have asked about sexual orientation. Nevertheless, this phenomenon likely reflects a lack of comfort among PCPs surrounding the discussion of sexuality, not necessarily surprising given the relatively small amount of time devoted to sexuality in medical school curricula.^{14–16}

The current study has several limitations. Data were collected using a self-administered, cross-sectional survey tool. Therefore, it is not possible to conclude that a causal relationship exists between PCP awareness of sexual orientation and sexual health recommendations. It is possible that individuals who are more comfortable with their sexuality sought out PCPs who are more aware of sexual health screening guidelines—such as through recommendations by MSM peers or by responding to targeted advertising by providers—or that such men themselves requested appropriate screening tests or vaccinations, although the

focus of this study was on the report of PCP recommendations, not on the participants' requests for health services. In addition, some survey items involved activities that may be viewed as undesirable, and therefore under-reported, such as unprotected sex. Such underreporting may be in contrast to other aspects of the survey, such as being out to one's physician or having been tested for HIV, which are less likely to be viewed as undesirable. Recruitment took place at a Gay Pride festival, which means that our sample could have overrepresentation with individuals who were comfortable with their sexual orientations. However, the main outcomes of this study are the differences between those who did and did not disclose their sexual orientation in healthcare settings. Therefore, the differences in preventive health services recommendations received by the 2 groups can be generalized to a broad geographic population of United States MSM, perhaps with the exception of those who have access to health clinics that specifically serve MSM. In such settings, MSM behaviors on the part of patients would be expected and providers could be more likely to be familiar with MSM-specific health prevention and screening recommendations.

The core finding of this study is that PCPs often are unaware of the sexual orientation of their MSM patients. For MSM, this lack of awareness can result in a failure to achieve the ultimate goals of the PCP-patient encounter: comprehensive evaluation, appropriate disease screening and prevention, and capitalizing on the opportunity that physicians have to improve the health of the public. Measures to improve PCP awareness of patients' sexual orientation should address both providers and patients.

Human sexuality education in undergraduate and graduate medical education improves medical students' skills and comfort in discussing sexual issues and interacting with gay patients.^{25,26} Currently, some resources are available to clinicians who wish to pursue additional training regarding discussing sexual behaviors and diagnosing STIs. These include open online resources, such as STDCheckup.org and CME training, such as "Prevention and Management of STDs in MSM: A toolkit for clinicians," developed by the Massachusetts Medical Society (available at: www.massmed.org). Although these and other resources can be quite valuable to interested providers, to reach a broader audience, education on this topic should be taught on a wider scale. Universal and compulsory human sexuality education in all medical and other health professions schools would improve the aptitude and comfort of newly trained health care providers. In addition, it also should be addressed in continuing medical education and in board certification examinations when appropriate.

Responsibility for conversations about sexuality and sexual risk must be shared. MSM patients need to take the initiative to disclose their sexual orientation to their PCPs and discuss whether appropriate diagnostic and preventive measures have been performed. Educational campaigns can target MSM to provide information about why such disclosure is important to their health. Community organizations serving gay and lesbian communities often have referral information for providers known to be sensitive to individuals of all sexual orientations and gender identities. Moreover, making such information more widely available would benefit those who do not seek services from such organizations or those who have little contact with lesbian, gay, bisexual, and transgender communities.

Future research should continue to examine methods of increasing provider comfort and aptitude in providing care of individuals of all sexual orientations. Our study, as do others in the published data, outline the potential negative consequences of failing to discuss sexual orientation with patients. In light of increasing numbers of new HIV cases among MSM,²⁷ especially among black MSM, in whom the prevalence of HIV is 20% to 50%,^{28,29} the public health imperative and ethical obligation providers have to elicit sexual risk information from their patients and make appropriate recommendations for screening and preventive health care cannot be overstated.

Acknowledgments

Supported, in part, by NIMH Center Grant P30-MH52776 and NIMH NRSA Postdoctoral Training Grant T32-MH19985.

The funding sources did not play any role in the design or conduct of this study, nor in the preparation or submission of the manuscript.

References

1. Davis M, Genel M, Howe JP III. Council on Scientific Affairs, American Medical Association. Health care needs of gay men and lesbians in the United States. *JAMA*. 1996; 275:1354–1359. [PubMed: 8614123]
2. Knight D. Health care screening for men who have sex with men. *Am Fam Physician*. 2004; 69:2149–2156. [PubMed: 15152963]
3. Makadon HJ, Mayer KH, Garofalo R. Optimizing primary care for men who have sex with men. *JAMA*. 2006; 296:2362–2365. [PubMed: 17105799]
4. Centers for Disease Control and Prevention. Recommended adult immunization schedule—United States, 2009. *Morb Mortal Wkly Rep*. 2008; 57:Q1–Q4.
5. Centers for Disease Control and Prevention. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *Morb Mortal Wkly Rep*. 2006; 55:1–17.
6. Makadon H, Silin J. Prevention of HIV infection in primary care: Current practices, future possibilities. *Ann Intern Med*. 1995; 123:715–719. [PubMed: 7574227]
7. Mayer KH, Bradford JB, Makadon HJ, et al. Sexual and gender minority health: What we know and what needs to be done. *Am J Public Health*. 2008; 98:989–995. [PubMed: 18445789]
8. Morris P. Doctors' attitudes to homosexuality. *Br J Psychiatry*. 1973; 122:435–436. [PubMed: 4718278]
9. Mathews WC, Booth MW, Turner JD, et al. Physicians' attitudes toward homosexuality—a survey of a California county medical society. *West J Med*. 1986; 144:106–110. [PubMed: 3953065]
10. Bhugra D. Doctors' attitudes to male homosexuality: A survey. *Sex Marital Ther*. 1990; 5:167–174.
11. Tellez C, Ramos M, Umland B, et al. Attitudes of physicians in New Mexico toward gay men and lesbians. *J Gay Lesbian Med Assoc*. 1999; 3:83–89.
12. Smith DM, Mathews WC. Physicians' attitudes toward homosexuality and HIV: Survey of a California medical society—revisited. *J Homosex*. 2007; 52:1–9. [PubMed: 17594969]
13. East JA, El Rayess F. Pediatricians' approach to the health care of lesbian, gay, and bisexual youth. *J Adolesc Health*. 1998; 23:191–193. [PubMed: 9763154]
14. Tesar CM, Rovi SL. Survey of curriculum on homosexuality/ bisexuality in departments of family medicine. *Fam Med*. 1998; 30:283–287. [PubMed: 9568499]
15. Wallick MM, Cambre KM, Townsend MH. How the topic of homosexuality is taught at US medical schools. *Acad Med*. 1992; 67:601–603. [PubMed: 1520420]
16. Solursh DS, Ernst JJ, Prisan LM, et al. The human sexuality education of physicians in North American medical schools. *Int J Impot Res*. 2003; 15:S41–S45. [PubMed: 14551576]

17. Dardick L, Grade KE. Openness between gay persons and health professionals. *Ann Intern Med*. 1980; 93:115–119. [PubMed: 7396288]
18. Eliason MJ, Schope R. Does “Don't ask don't tell” apply to health care? Lesbian, gay, and bisexual people's disclosure to health care providers. *J Gay Lesbian Med Assoc*. 2001; 5:125–134.
19. Meckler GD, Elliott MN, Kanouse DE, et al. Nondisclosure of sexual orientation to a physician among a sample of gay, lesbian, and bisexual youth. *Arch Pediatr Adolesc Med*. 2006; 160:1248–1254. [PubMed: 17146022]
20. Bernstein KT, Liu K, Begier EM, et al. Same-sex attraction disclosure to health care providers among New York City men who have sex with men. *Arch Intern Med*. 2008; 168:1458–1464. [PubMed: 18625927]
21. Stein GL, Bonuck KA. Physician-patient relationships among the lesbian and gay community. *J Gay Lesbian Med Assoc*. 2001; 5:87–93.
22. Bull SS, Rietmeijer C, Fortenberry JD, et al. Practice patterns for the elicitation of sexual history, education and counseling among providers of STD services: Results from the gonorrhea community action project. *Sex Transm Dis*. 1999; 26:584–589. [PubMed: 10560723]
23. Mimiaga MJ, Goldhammer H, Belanoff C, et al. Men who have sex with men: Perceptions about sexual risk, HIV and sexually transmitted disease testing, and provider communication. *Sex Transm Dis*. 2006; 33:1–7.
24. Petrone AE, DiFranceisco W, McAuliffe TL, et al. HIV testing rates, testing locations, and healthcare utilization among urban African-American men. *J Urban Health*. 2009; 86:119–131. [PubMed: 19067176]
25. Dixon-Woods M, Regan J, Robertson N, et al. Teaching and learning about human sexuality in undergraduate medical education. *Med Educ*. 2002; 36:432–440. [PubMed: 12028393]
26. Rosen R, Kountz D, Post-Zwicker T, et al. Sexual communication skills in residency training: The Robert Wood Johnson model. *J Sex Med*. 2006; 3:37–46. [PubMed: 16409216]
27. Hall HI, Song R, Rhodes P, et al. Estimation of HIV incidence in the United States. *JAMA*. 2008; 300:520–529. [PubMed: 18677024]
28. Centers for Disease Control and Prevention. HIV prevalence, unrecognized infection, and HIV testing among men who have sex with men—five US cities, June 2004–April 2005. *Morb Mortal Wkly Rep*. 2005; 54:597–600.
29. Harawa NT, Greenland S, Bingham TA, et al. Associations of race/ethnicity with HIV prevalence and HIV-related behaviors among young men who have sex with men in 7 urban centers in the United States. *J Acquir Immune Defic Syndr*. 2004; 35:526–536. [PubMed: 15021318]

Table 1
Participant Demographics and Univariate Analysis of Health Care Provider Knowledge of Sexual Orientation

	%	% Who Report HCP Aware of Their Sexual Orientations	χ^2	P
Race			10.43	0.015
White	76.0	74.8		
Latino	8.1	68.2		
African-American	5.9	37.5		
Other or unknown	10.0	74.1		
Partnered			2.51	0.113
Yes	50.2	76.3		
No	49.8	67.6		
Location			7.22	0.027
Urban	69.9	73.7		
Suburban	21.4	75.4		
Rural	8.6	47.8		
HCP sexual orientation			10.21	0.001
Heterosexual	88.9	68.9		
Gay	11.1	96.7		
HCP gender			4.57	0.032
Male	84.4	69.6		
Female	15.6	85.7		
			Spearman ρ	P
Age			0.195	0.001
<25 yr	25.8	57.1		
25–34 yr	22.9	71.0		
35–44 yr	29.2	79.7		
45 or older	22.1	80.0		
Education			0.054	0.37
Less than HS	3.3	55.6		
HS graduate	29.2	75.9		
College or skills technical degree	49.8	65.9		
Postgraduate degree	17.7	85.4		
Income			0.206	0.001
\$0–\$15,000	15.0	42.5		
\$15,001–\$30,000	22.8	73.8		
\$30,001–\$45,000	27.0	77.8		
>\$45,000	35.2	78.7		
HCP's age			–0.121	0.047
<40 yr	24.0	80.0		
40–44 yr	21.8	71.2		
45–49 yr	23.6	75.0		

	%	% Who Report HCP Aware of Their Sexual Orientations	χ^2	<i>P</i>
50 or older	30.6	63.9		

Table 2
Patient and Health Care Provider Factors Associated With Knowledge of Sexual Orientation in Multiple Regression Analysis

Variables	Coefficient ^{*†}	Wald Statistic	Significance	Prevalence Ratio
Patient is African-American	– 1.844	7.635	0.006	0.48
Patient is Latino	– 0.037	0.004	0.951	0.99
Patient is partnered vs. single	0.469	2.097	0.148	1.11
Patient lives in urban or suburban vs. rural area	– 1.102	4.853	0.028	0.71
Patient's age	0.037	5.153	0.023	
Patient has more than HS education	– 0.865	4.990	0.025	0.84
Patient income less than \$15,000	– 1.179	6.302	0.012	0.70
HCP is gay or lesbian	2.843	7.129	0.008	1.35
HCP is female	1.948	10.782	0.001	1.31
HCP's age	– 0.020	1.039	0.308	

* Positive coefficient indicates patient is more likely to report HCP aware of their sexual orientations; Negative coefficient indicates patient is less likely to report HCP aware of their sexual orientations.

† Number of cases included in analysis is 259; 12 cases were excluded in multiple regression because of missing data on one or more predictors.