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How well are U.S. primary care providers assessing whether their male patients have male sex partners?

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Abstract

Identifying patients at-risk for HIV infection, such as men who have sex with men (MSM), is an important step in providing HIV testing and prevention interventions. It is unknown how primary care providers (PCPs) assess MSM status and related HIV-risk factors. We analyzed data from a panel-derived web-based survey for healthcare providers conducted in 2014 to describe how PCPs in the U.S. determined their patients' MSM status. We calculated adjusted prevalence ratios (aPR) and 95% confidence intervals (CI) to describe PCP characteristics associated with systematically determining MSM status (i.e., PCP used “a patient-completed questionnaire” or “routine verbal review of sex history”). Among the 1008 PCPs, 56% determined MSM status by routine verbal review of sexual history; 41% by patient disclosure; 39% by questions driven by symptoms/history; 23% by using a patient-completed questionnaire, and 9% didn't determine MSM status. PCPs who systematically determined MSM status ($n = 665$; 66%) were more likely to be female (aPR = 1.16, CI = 1.06–1.26), to be affiliated with a teaching hospital (aPR = 1.15, CI = 1.06–1.25), to routinely screen all patients aged 13–64 for HIV (aPR = 1.29, CI = 1.18–1.41), and to estimate that 6% or more of their male patients are MSM (aPR = 1.14, CI = 1.01–1.30). The majority of PCPs assessed MSM status and HIV risk factors through routine verbal reviews of sexual history. Implementing a systematic approach to identify MSM status and assess risk may allow PCPs to identify more patients needing frequent HIV testing and other preventive services, while mitigating socio-cultural barriers to obtaining such information.

Keywords

Primary care physicians; Sexual minorities; HIV testing; Sexual behavior

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Conflict of interest statement

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Disclaimer

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1. Introduction

In 2006, the Centers for Disease Control and Prevention (CDC) recommended routine HIV screening in all healthcare settings for patients between the ages of 13 and 64, as well as repeat screening at least once a year for patients at high risk for HIV infection, a group that includes sexually active gay, bisexual, and other men who have sex with men (collectively referred to as MSM) (Branson et al., 2006). In April 2013, the United States Preventive Services Task Force (USPSTF) issued updated recommendations on routine testing for HIV (U.S. Preventive Services Task Force, 2013), which were largely consistent with the 2006 CDC HIV testing recommendations, and suggested that at least annual HIV testing for very high-risk groups, such as MSM, was a “reasonable approach”.

Despite these recommendations, and several reports indicating the acceptability of routine testing among the public (Christopoulos et al., 2012; Hack et al., 2013; Harmon et al., 2014; Jover-Diaz et al., 2012; Valenti et al., 2012), universal HIV testing has not been widely implemented in healthcare settings (Centers for Disease Control and Prevention, 2012a, 2013a; Hoover et al., 2013; McNaghten et al., 2013; Rizza et al., 2012), and many MSM are still not being screened frequently enough (Centers for Disease Control and Prevention, 2016). MSM who report being offered an HIV test by their doctor are more likely to disclose male-to-male sexual activity (Wall et al., 2010). Primary care providers (PCPs) who know their patients' sexual orientation are more likely to discuss sexual activity and risk behavior; however, many PCPs do not inquire about the sexual orientation of their patients (Petroll and Mosack, 2011). Given that sexual orientation or identity is not necessarily correlated with sexual behavior, it might be more accurate for PCPs to assess sexual behaviors among their patients. However, previous reports have indicated that healthcare providers feel uncomfortable discussing sexual behaviors in what they perceive to be low HIV prevalence settings, or cite a lack of time as a barrier to having these discussions with their patients during the office visit (Carter et al., 2014; Lanier et al., 2014; White et al., 2015). These barriers could potentially be overcome by the use of a systematic approach, such as a patient questionnaire, that does not require targeting specific clients or waiting for a patient to initiate disclosing their sexual orientation or HIV-associated risk factors to their physician. However, there are currently few tools to help clinicians assess their patients' sexual history and risk for HIV (Centers for Disease Control and Prevention, 2017; Knight and Jarrett, 2015; Lanier et al., 2014), and little is known about how widely they are used in health care settings, specifically in primary care settings in the United States. It is unknown what methods, if any, U.S. PCPs are using to assess their patient's MSM status.

The purpose of this analysis was: 1) to assess which methods U.S. PCPs use to determine which patients are MSM; 2) to characterize PCPs who identify MSM using a systematic approach; and 3) to describe which HIV risk factors PCPs assess among MSM patients.

2. Methods

2.1. Study sample

We analyzed data from DocStyles 2014, a web-based survey of U.S. healthcare providers (PCPs, pediatricians, obstetrician/gynecologists, nurse practitioners) conducted by Porter Novelli Public Services, a public relations firm that specializes in health and social marketing. The PCP sample was drawn from SERMO/WorldOne's Global Medical Panel, a marketing panel that in 2014 included over 270,000 physicians and over 1,000,000 medical professionals in the U.S. (Porter Novelli, 2014) The PCP sample included healthcare providers who identified as Family or General Practitioners, or as Internists. To reach a predetermined quota of 1000 PCPs, a random sample of 2512 health professionals, which included 1353 PCPs, was selected from the SERMO database to receive an invitation to participate in the web-based survey.

PCP respondents were screened to include only providers who worked in an individual, group, or hospital practice, and who actively saw patients in the U.S. for at least three years preceding the survey. The survey was conducted from June 18, 2014 to June 30, 2014. PCP respondents were paid an honorarium of \$69 for completing the survey. Completed survey responses were obtained from 1008 PCPs, representing a 74.5% response rate.

CDC obtained a license to access the results dataset of the DocStyles 2014 survey from Porter Novelli. The analysis was exempted from CDC institutional review board approval as no individual identifiers were included in the dataset provided to CDC.

2.2. Measures

2.2.1. Outcome variable—The main outcome variable for this study was whether PCPs used a systematic approach to assess MSM status among their patients, and was defined using the question: “How do you typically determine if a male patient has male sex partners? Select all that apply.” PCPs using systematic methods were those who said they determined if their patient is MSM by either the use of a questionnaire completed by the patient, or through a routine verbal review of sexual history. PCPs not using systematic methods included those who indicated they do not assess MSM status, or those who say they could determine MSM status from questions driven by symptoms or history and/or from patient disclosure.

2.2.2. Independent variables—Additional demographic and health-related covariates included age category (27–29, 30–39, 40–49, 50–59, and 60 or older); gender (male or female); race/ethnicity (non-Hispanic white, non-Hispanic black/African American, non-Hispanic Asian, non-Hispanic other/multiple race, and Hispanic); number of years practicing medicine (3–9, 10–19, 20 or more); whether PCP is affiliated with a teaching hospital (yes or no); main work setting (individual outpatient practice, group outpatient practice, or inpatient practice); use of electronic health records in practice (yes or no); average number of patient visits per week (< 100 or 100 or more); PCP-perceived financial situation of the majority of their patients (very poor/lower middle class, middle class, or affluent/upper middle class); PCP-estimated proportion of patients who are MSM (< 1%, 1–

5%, 6% or more, or “I don’t know”); whether PCP routinely screens all patients 13–64 for HIV (yes or no); PCP beliefs about the most effective HIV prevention approach (risk-based HIV screening is the most effective approach, HIV screening for all persons age 13 to 64 is the most effective approach, or HIV screening is a public health concern and not an issue in my clinical practice); and if PCP has diagnosed patients with HIV in the past 12 months (yes or no).

To describe the HIV-risk behaviors assessed by PCPs among their MSM patients, PCPs were asked: “Which of the following characteristics do you assess among your male patients who have sex with men? Select all that apply.” Response options included: patient’s self-reported HIV status, frequency of HIV testing, number of male sex partners, new male sex partners since last HIV test, number of HIV-infected male sex partners, type of sex (e.g., receptive anal sex, insertive anal sex, oral sex, etc.), any recent history or current symptoms of sexually transmitted infections, recreational drug use, whether patient has sex without a condom, sex while using drugs or alcohol, and exchanged sex for money or drugs. Respondents could also indicate they did not assess any of the above.

2.2.3. Statistical analysis—All analyses were conducted using SAS software (version 9.3, SAS Institute, Inc., Cary, NC). We performed bivariate analyses of demographic PCP characteristics, and practice-related factors associated with using a systematic method of identifying MSM, with the chi-square test. Crude prevalence ratios, based on Poisson regression models with a robust standard error with generalized estimating equation procedures, were used in bivariate analyses to test for overall differences in the use of systematic methods to identify MSM among the levels of independent study variables. We used a multivariable Poisson model to estimate adjusted prevalence ratios. The model included significant covariates as determined by chi-square tests, as well as race/ethnicity, regardless of the level of statistical significance because of its potential importance to the model. We used the backward elimination approach to remove covariates from the model with a p -value > 0.15 . We present the unadjusted and adjusted prevalence ratios with 95% CI for the final model. For all analyses, we considered a p -value of 0.05 or less statistically significant.

3. Results

3.1. Methods for determining MSM status

When PCPs were asked how they assessed MSM status among their male patients (Fig. 1), more than half reported using “routine verbal review of sexual history” and less than a quarter reported “from a questionnaire completed by patient”. Combining these two resulted in 665 PCPs (66%) reporting the use of at least one systematic method to identify MSM patients and 343 (34%) PCPs not using a systematic method at all, which included 90 (9%) PCPs who indicated they do not routinely assess MSM status among their patients.

3.2. PCP demographics and practice characteristics

PCP demographics and practice characteristics are summarized in Table 1. The majority of PCP respondents were male (73%), with an average age of 46 (SD = 10), and on average had

been practicing medicine for 15.3 years (SD = 8.5). By race/ethnicity, 57% were white, 28% were Asian, and 2% were black or African American. Most PCPs (69%) worked at a group outpatient practice, 51% were affiliated with a teaching hospital, 68% saw an average of 100 patients or more per week, 89% used electronic health records in their practice, and 46% considered the financial situation of the majority of their patients as affluent or upper middle class.

The majority of PCPs (72%) did not routinely screen all of their patients aged 13–64 for HIV and 49% had not diagnosed HIV among their patients in the past 12 months. Concerning PCP beliefs on the most effective approach for HIV prevention, 63% indicated risk-based screening was most effective, 30% indicated universal screening, and 7% considered HIV screening as a public health concern and not an issue in their clinical practice. PCPs were asked to estimate the proportion of MSM among their patient population. Only 7% indicated that they did not know what proportion of their male patients were MSM and 25% estimated that > 5% of their male patients were MSM.

3.3. PCP characteristics by method used to determine MSM status

We then investigated which PCP characteristics were associated with using a systematic method to determine MSM status (Table 1). Significant associations were found by gender, number of years practicing medicine, being affiliated with a teaching hospital, electronic health records used in practice, financial situation of majority of patients, estimated proportion of MSM patients, routinely screening all patients aged 13–64, beliefs about the most effective HIV prevention approach, and having diagnosed patients with HIV in the past 12 months.

3.4. PCP characteristics independently associated with PCPs who systematically identify MSM

The results of the bivariate and the multivariable model are presented in Table 2. In the multivariable model several factors were significantly associated with systematically identifying MSM patients. PCPs who used a systematic method were 16% more likely to be female physicians (95% CI = 1.06–1.26) compared to male PCPs. Compared to PCPs not affiliated with a teaching hospital, PCPs with teaching hospital privileges were 15% more likely to use a systematic method to identify MSM (95% CI = 1.06–1.25).

PCPs who routinely screen for HIV were 29% more likely to use a systematic method than PCPs who do not routinely screen for HIV (95% CI = 1.18–1.41). PCPs who estimated their MSM patient population to be 6% or more were 14% more likely to use a systematic assessment method (95% CI = 1.01–1.30) compared to PCPs with an estimated MSM patient population of < 1%.

In contrast, PCPs who believed HIV screening is a public health concern and not an issue for their own clinical practice and PCPs who didn't know the proportion of MSM among their patients were less likely to use a systematic method to assess MSM status.

3.5. HIV-related factors assessed by PCPs

The most common HIV-related factors assessed by all PCPs among their MSM patients (Table 3) were the patient's self-reported HIV status reported by 62% of PCPs, followed by frequency of HIV testing (58%), the number of male sex partners (57%), if the patient had new male sex partners since last HIV test (57%) and the number of HIV-infected male partners (54%). For all risk factors assessed, the percent of PCPs using a systematic method who said they assessed the risk factor was significantly higher than the percent of PCPs not using a systematic method.

4. Discussion

The findings of this study provide evidence that a majority of PCPs actively try to determine whether their male patients have sex with men, and to discuss HIV risk factors and sexual histories with their MSM patients using systematic methods, mostly from a routine verbal review, as opposed to waiting on patient disclosure or through questions driven by symptoms or medical history. However, it remains unclear if this active determination of MSM status among their patients was applied consistently to every patient. That not all PCPs are actively determining the MSM status of some or all of their patients aligns with previous literature indicating that some PCPs feel discomfort discussing sexual health (Carter et al., 2014), report lack of time to discuss sexual health issues with patients (Carter et al., 2014; Lanier et al., 2014; White et al., 2015), or feel uncertain on how to approach sexual health with MSM patients (Mayer, 2014; Underhill et al., 2015; Wolitski and Fenton, 2011). Relying on the patient to initiate this discussion is not an effective approach; reports indicate that only 61–70% of MSM tell their sexual orientation to their PCPs without prompting (Bernstein et al., 2008; Petroll and Mosack, 2011), while another study indicates willingness among many participants to disclose same-sex behavior when asked by their PCPs (Underhill et al., 2015).

In our study, PCP gender, practices (i.e., routine screening for HIV, affiliations with teaching hospitals), and perceptions (i.e., beliefs about most effective HIV prevention approach or perceived proportion of MSM patients) were independently associated with using a systematic method, which highlights how societal and cultural norms might hinder or facilitate the assessment of MSM status. Our findings complement previous studies that suggest female providers are more aware of the sexual orientation of their MSM patients (Petroll and Mosack, 2011) and are more likely to favor routine HIV testing (Arbelaez et al., 2012). Providers have also stated that PCP knowledge about the rationale for routine HIV testing could facilitate testing (White et al., 2015). Therefore, it may be that the associations observed between using a systematic method to assess MSM status, and routine screening practices or affiliations with teaching hospitals, are due to increased knowledge about HIV testing and risk behaviors among these providers.

Implementing a more objective systematic approach, such as a patient questionnaire to review sexual history and HIV risk factors, which was used by less than a quarter of PCPs in our study, might reduce the impact of individual-level factors on assessing MSM status among patients. We found that most PCPs using a systematic method assessed MSM status and HIV risk factors through routine verbal reviews of sexual history (more than half of our

sample); however, due to the unstructured nature of verbal reviews, the HIV risk factors that are reportedly assessed by our PCPs are not necessarily assessed consistently among all their MSM patients. Using a patient questionnaire as part of a routine annual or biannual visit might prove useful to consistently ask and collect such information from all patients. With the incorporation of electronic health records in healthcare settings, a patient questionnaire to properly assess risk for HIV/STD acquisition in its electronic format might be an approach that medical providers could consider. There are currently several sexual history taking toolkits and educational materials that aim to help physicians with this task (Centers for Disease Control and Prevention, 2005; National LGBT Health Education Center (Fenway Institute) and the National Association of Community Health Centers, 2015; Sweet, 2017) and could be a good starting point to implement systematic ways of assessing MSM status and HIV risk factors.

Using a systematic approach to identify MSM in the primary care practice would then be a facilitator for identifying patients who would benefit from at least annual HIV screening (Branson et al., 2006). PCPs may act as facilitators and encouragers of routine testing among sexually active MSM, (Owczarzak et al., 2011) especially in non-judgmental interactions during doctor's visits (Knight and Jarrett, 2015; Mimiaga et al., 2007). Our data also indicated that more than half of PCPs reported assessing common HIV risk factors and behaviors among their MSM patients. Therefore, when clinicians are able to identify MSM patients and assess their risk, they can explain the biomedical options currently available for them beyond HIV screening, such as post-exposure prophylaxis (Kuhar et al., 2013), pre-exposure prophylaxis (Centers for Disease Control and Prevention, 2011, 2012b, 2013b), STI screening and treatment (Workowski and Berman, 2010; Workowski et al., 2015), vaccinations (such as human papilloma virus or hepatitis vaccines), and recommended behavioral interventions, such as HIV prevention or risk-reduction counseling (Centers for Disease Control and Prevention, 2001).

4.1. Limitations

The current analysis had several limitations. First, the findings result from an online panel survey and may not be generalizable to all U.S.-based PCPs. However, in addition to achieving a high response rate, the sampling methodology used by SERMO rendered a PCP sample that was comparable to U.S. physicians in gender, age, and U.S. region, as estimated by the American Medical Association (Porter Novelli, 2014). Second, measures used in the analysis are self-reported by the respondents and are, therefore, subject to recall and social desirability bias. Providers might be reporting what they would like to do rather than what they are actually doing. In one study, only 14% of MSM reported that their PCPs asked them about their sexual orientation while another 14% indicated their PCP guessed (Petroll and Mosack, 2011). Third, the frequency of the administration of “routine verbal review” and “patient questionnaires” was not assessed therefore we were not able to evaluate if PCP determined MSM status of all their male patients or just of a portion. PCPs may have reported the method used in those cases when they find out a patient is MSM, rather than noting their general approach to determining MSM status among male patients. This limitation should be considered in the application of the findings of the current study. Finally, no causal associations can be inferred given the cross-sectional design of the survey.

Also, additional research might be needed to define the patient's role in disclosure of sexual identity and sexual behaviors in the primary care setting as it was beyond the scope of this study.

5. Conclusions

The findings of this analysis indicate that more than half of PCPs assess the same-sex sexual behavior of their male patients using a systematic approach. PCP gender, perceptions, and practices may hinder the systematic assessment of MSM status. Implementing a systematic approach to assess sexual and HIV-related risk history, such as a patient questionnaire, may allow PCPs to identify patients needing more frequent HIV/STI testing or other preventive services while mitigating socio-cultural barriers to obtaining such information.

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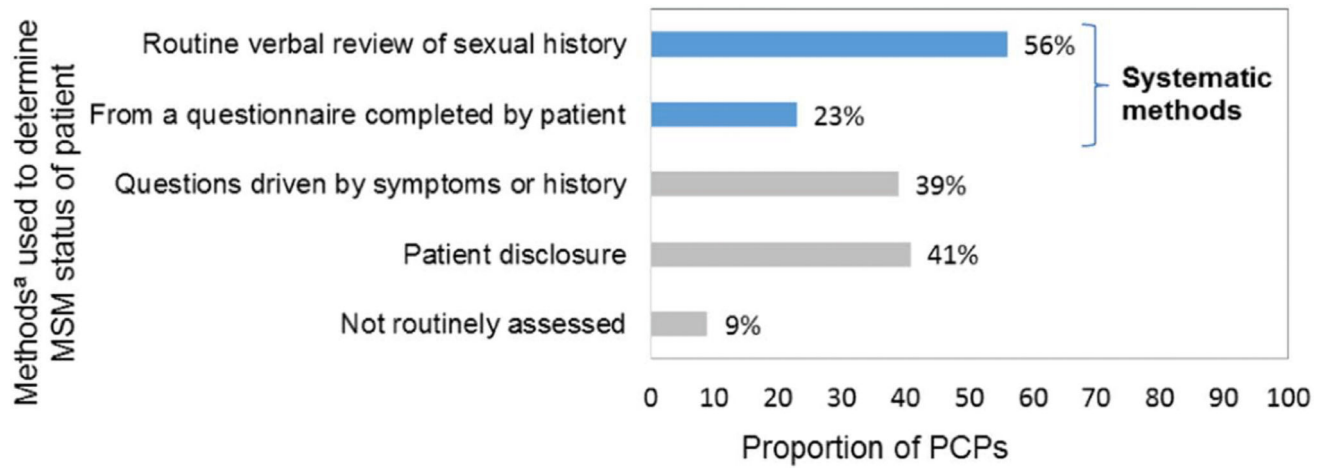


Fig. 1.

Methods^a used by 1008 PCPs to determine MSM status of their patients, DocStyles 2014.

Abbreviations: PCPs, primary care providers; MSM, men who have sex with men.

^aRespondents could select more than one method.

Primary care provider demographic characteristics, practices, and perceptions by use of a systematic method to identify their MSM patients, DocStyles 2014.

Table 1

Characteristics	All PCPs n (%)	PCPs using SM n (%)	PCPs not using SM n (%)	p-value
Age				
30–39	305 (30.3)	212 (31.9)	93 (27.1)	0.164
40–49	329 (32.6)	215 (32.3)	114 (33.2)	
50–59	268 (26.6)	177 (26.6)	91 (26.5)	
60 +	106 (10.5)	61 (9.2)	45 (13.1)	
Gender				< 0.001
Male	734 (72.8)	459 (69.0)	275 (80.2)	
Female	274 (27.2)	206 (31.0)	68 (19.8)	
Race/ethnicity				0.06
Non-Hispanic (NH) White	575 (57.1)	370 (55.6)	206 (60.1)	
NH Black or African American	21 (2.1)	17 (2.6)	4 (1.2)	
NH Asian	284 (28.2)	195 (29.3)	89 (26.0)	
NH Other/Multiple race	75 (7.4)	43 (6.5)	32 (9.3)	
Hispanic (any race)	52 (5.2)	40 (6.0)	12 (3.5)	
Years practicing medicine				0.027
3 to 9	314 (31.2)	225 (33.8)	89 (26.0)	
10 to 19	380 (37.7)	246 (37.0)	134 (39.1)	
20 +	314 (31.2)	194 (29.2)	120 (35.0)	
Affiliated to a teaching hospital				< 0.001
Yes	514 (51.0)	372 (55.9)	142 (41.4)	
No	494 (49.0)	293 (44.1)	201 (58.6)	
Main work setting				0.318
Individual outpatient practice	198 (19.6)	139 (20.9)	59 (17.2)	
Group outpatient practice	691 (68.6)	446 (67.1)	245 (71.4)	
Inpatient practice	119 (11.8)	80 (12.0)	39 (11.4)	
Electronic health records used				0.01
Yes	894 (88.7)	602 (90.5)	292 (85.1)	
No	114 (11.3)	63 (9.5)	51 (14.9)	
Average number of patients				0.531
< 100 per week	325 (32.2)	210 (31.6)	115 (33.5)	
100 or more per week	683 (67.8)	455 (68.4)	228 (66.5)	
Financial situation of most patients				0.018
Very poor/lower middle class	164 (16.3)	123 (15.8)	41 (12.0)	
Middle class	384 (38.1)	240 (36.1)	144 (42.0)	
Affluent/upper middle class	460 (45.6)	302 (45.4)	158 (46.1)	

Characteristics	All PCPs n (%)	PCPs using SM n (%)	PCPs not using SM n (%)	p-value
PCP-estimated proportion of MSM patients				
< 1%	223 (21.1)	134 (20.2)	89 (26.0)	< 0.001
1–5%	464 (46.0)	322 (48.4)	142 (41.4)	
> 5%	252 (25.0)	191 (28.7)	61 (17.8)	
Don't know	69 (6.9)	18 (2.7)	51 (14.9)	
Routinely screens for HIV all patients aged 13–64	282 (28.3)	237 (35.9)	45 (13.4)	< 0.001
Yes				
No	714 (71.7)	423 (64.1)	291 (86.6)	
Belief's about the most effective HIV prevention approach				
Risk-based screening	632 (62.7)	407 (61.2)	225 (65.6)	< 0.001
Screening all persons aged 13–64	304 (30.2)	230 (34.6)	74 (21.6)	
Screening is a public health concern and not an issue in my clinical practice	72 (7.1)	28 (4.2)	44 (12.8)	
Number of patients diagnosed with HIV, past 12 months				
0	494 (49.0)	300 (45.1)	194 (56.6)	< 0.001
1 to 5	370 (36.7)	250 (37.6)	120 (35.0)	
6 +	51 (5.1)	115 (17.3)	29 (8.5)	
TOTAL	1008	665	343	

Abbreviations: PCPs, primary care providers; MSM, men who have sex with men; SM, systematic method.

P-values smaller than 0.05 are indicated in **bold**.

Table 2

Prevalence, prevalence ratio, and adjusted prevalence ratio of characteristics from 665 PCPs who systematically identify MSM, DocStyles 2014.

Characteristics	PCPs (<i>n</i> = 1008)		PCPs who systematically identify MSM (<i>n</i> = 665)	
	<i>n</i>	<i>n</i> (row%)	PR (95% CI)	aPR ^a (95% CI)
Gender	734	459 (62.5)	Ref	Ref
Male				
Female	274	206 (75.2)	1.20 (1.10–1.31)	1.16 (1.06–1.26)
Race/ethnicity	575	370 (64.2)	Ref	Ref
Non-Hispanic (NH) White				
NH Black or African American	21	17 (81.0)	1.26 (1.02–1.56)	1.25 (1.00–1.56)
NH Asian	284	195 (68.7)	1.07 (0.97–1.18)	1.06 (0.96–1.16)
NH Other/Multiple race	75	43 (57.3)	0.89 (0.73–1.10)	0.87 (0.72–1.05)
Hispanic (any race)	52	40 (76.9)	1.20 (1.02–1.41)	1.15 (0.97–1.35)
Years practicing medicine	314	225 (71.7)	Ref	
3 to 9				
10 to 19	380	246 (64.7)	0.90 (0.82–1.00)	
20 +	314	194 (61.8)	0.86 (0.77–0.96)	
Affiliated to a teaching hospital	514	372 (72.4)	1.22 (1.12–1.34)	1.15 (1.06–1.25)
Yes				
No	494	293 (59.3)	Ref	Ref
Electronic health records used in practice	894	602 (67.3)	1.22 (1.03–1.45)	
Yes				
No	114	63 (55.3)	Ref	
Financial situation of patient population	164	123 (75.0)	1.14 (1.02–1.28)	1.05 (0.94–1.17)
Very poor/lower middle class				
Middle class	384	240 (62.5)	0.95 (0.86–1.05)	0.94 (0.85–1.03)
Affluent/upper middle class	460	302 (65.7)	Ref	Ref
Routinely screens all patients aged 13–64 for HIV	282	237 (84.0)	1.42 (1.31–1.54)	1.29 (1.18–1.41)
Yes				
No	714	423 (59.2)	Ref	Ref
Beliefs about most effective HIV prevention approach	632	407 (64.4)	0.85 (0.78–0.93)	1.00 (0.91–1.10)
Risk-based screening				
Screening for all persons aged 13–64	304	230 (75.7)	Ref	Ref
Screening is a public health concern and not an issue in my clinical practice	72	28 (38.9)	0.51 (0.38–0.69)	0.68 (0.51–0.91)
Diagnosed patient with HIV, past 12 months	514	365 (71.0)	1.17 (1.07–1.28)	
Yes				
No	494	300 (60.7)	Ref	
PCP-estimated proportion of MSM patients	223	134 (60.1)	Ref	Ref
< 1%				
1–5%	464	322 (69.4)	1.15 (1.02–1.31)	1.11 (0.99–1.25)

Characteristics	PCPs (<i>n</i> = 1008)		PCPs who systematically identify MSM (<i>n</i> = 665)	
	<i>n</i>	<i>n</i> (row%)	PR (95% CI)	aPR ^a (95% CI)
6 + %	252	191 (75.8)	1.26 (1.11–1.43)	1.14 (1.01–1.30)
Don't know	69	18 (26.1)	0.43 (0.29–0.66)	0.43 (0.29–0.65)

Abbreviations: PCPs, primary care providers; MSM, men who have sex with men; PR, prevalence ratio; aPR, adjusted prevalence ratio; CI, confidence interval; ref., reference.

^aThe multivariable model is adjusted for gender, race/ethnicity, being affiliated to a teaching hospital, financial situation of patients, routinely screening all patients for HIV, beliefs on effective HIV prevention approaches, and PCP-estimated proportion of MSM patients.

Table 3

HIV risk factors and behaviors assessed by PCPs among their MSM patients by use of a systematic method, DocStyles 2014.

HIV risk factors/behaviors ^a	All PCPs n (%)	PCPs using SM n (%)	PCPs not using SM n (%)	<i>p-value</i>
Patient's self-reported HIV status	625 (62.0)	450 (67.7)	175 (51.0)	< 0.001
Frequency of HIV testing	583 (57.8)	427 (64.2)	156 (45.5)	< 0.001
Number of male sex partners	577 (57.2)	436 (65.6)	141 (41.1)	< 0.001
New male sex partners since last HIV test	569 (56.5)	429 (64.5)	140 (40.8)	< 0.001
Number of HIV-infected male sex partners	548 (54.4)	420 (63.2)	128 (37.3)	< 0.001
Type of sex (e.g. receptive anal sex, insertive anal sex, oral sex)	478 (47.4)	381 (57.3)	97 (28.3)	< 0.001
Whether patient has sex without a condom	465 (46.1)	376 (56.5)	89 (26.0)	< 0.001
Recreational drug use	377 (37.4)	302 (45.4)	75 (21.9)	< 0.001
Sex while using drugs or alcohol	319 (31.7)	248 (37.3)	71 (20.7)	< 0.001
Exchange sex for money or drugs	269 (26.7)	218 (32.8)	51 (14.9)	< 0.001
Any recent history or current symptoms of STI	184 (18.3)	152 (22.9)	32 (9.3)	< 0.001
I do not assess any of the above	92 (9.1)	20 (3.0)	72 (21.0)	< 0.001
TOTAL	1008	665	343	

Abbreviations: PCPs, primary care providers; SM, systematic method.

P-values smaller than 0.05 are indicated in **bold**.

^a Respondents could select more than one HIV risk factor/behavior.