Tobacco Use and Cessation Among a Household-Based Sample of US Urban Men Who Have Sex With Men

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Accumulating evidence suggests that men who have sex with men (MSM) smoke at higher rates (estimates ranging from 34% to 50%) than do men in the general population.[1–4] These point prevalence estimates, however, have been based primarily on convenience samples. We do not yet have precise and accurate population-based data of smoking rates for MSM because (1) it is difficult to accurately count MSM living in the United States, (2) MSM health studies have not researched tobacco use, and (3) population-based surveillance studies of tobacco have not asked about sexual orientation or same-gender behavior. We sought to estimate the prevalence of current smoking for MSM with data drawn by probabilistic sampling methods from different regions of the United States.

Smoking cessation research has not adequately dealt with MSM, even though this population is targeted by tobacco companies[5–8] and is affected disproportionately by smoking. This situation is particularly worrisome given that smoking exacerbates HIV/AIDS.[9–13] No data are currently available on the rates of smoking cessation among MSM, the mean number of quit attempts, the methods used to quit, and the characteristics of former smokers and correlates of cessation. Collecting such basic data would be an essential first step in addressing smoking cessation among MSM, the goal being to increase the number of MSM smokers who use and benefit from evidence-based programs.[1,4]

Our objectives were (1) to measure tobacco use among a probability sample of urban MSM and to compare the rates of current smoking between these MSM and similarly aged men sampled by the National Household Interview Survey (NHIS) and (2) to describe smoking cessation rates and identify the correlates of cessation. Our findings were meant to document how urban MSM benefit

Objectives. We examined tobacco use and cessation among a probability sample of urban men who have sex with men (MSM) living in 4 large US cities.

Methods. Of the 2402 men who were eligible for follow-up from a previously recruited probability sample, 1780 (74%) completed tobacco surveys between January and December 1999.

Results. Current smoking rates were higher for urban MSM (31.4%; 95% confidence interval [CI]=28.6%, 34.3%) than for men in the general population (24.7%; 95% CI=21.2%, 28.2%). Among MSM, 27% were former smokers. A complex set of sociodemographic, tobacco-related, and other factors were associated with cessation.

Conclusions. Results support earlier reports that smoking rates are higher for MSM compared with men in the general population. Findings related to cessation underscore the need to target tobacco control efforts for MSM. (*Am J Public Health.* 2005;95:145–151. doi: 10.2105/AJPH.2003.021451)

from tobacco control programs and offer an early glimpse of how cessation data could inform the development of targeted interventions for this population.

METHODS

Overview

The cross-sectional Gay Men's Tobacco Study (GMTS) was conducted between January and December 1999 in a previously recruited sample of adult MSM (the Urban Men's Health Study [UMHS]). The primary aim of the GMTS was to measure tobacco use and tobacco-related factors not collected by the UMHS, whose principal aim was to measure the prevalence of HIV/AIDS and to identify related risk factors for urban MSM.

Sample Construction of UMHS

The UMHS conducted a telephone survey in a stratified probability sample of MSM drawn from selected zip codes within the city limits of Chicago, Ill; Los Angeles (including West Hollywood and Beverly Hills), Calif; New York, NY; and San Francisco, Calif. In these 4 cities, the proportion of households with telephones is approximately 95%.[14,15] A more detailed description of the UMHS

sample design has been published elsewhere.[16] In brief, mapping of MSM-relevant health, commercial, and census data for each city resulted in estimations of MSM residential density by zip code.[17] Disproportionate sampling and adaptive sampling techniques[18] were used to construct a random-digit-dial sample for the designated areas in each city. Sample weights were developed to reflect the probability of selection (including the disproportionate sampling approach and stratification built into the sample frame) and were adjusted for nonresponse (of households that were called) and noncoverage (of households within the selected zip codes that were not called) while maintaining proportionality between cities on the basis of the estimated size of each city's MSM population.

UMHS Procedure

Between November 1996 and February 1998, 195 152 telephone numbers were dialed, of which 84 910 were not households and 15 034 did not result in an answer). Of the 95 208 households identified, 63 411 were successfully screened. Any adult male who reported having had same-gender sexual contact since the age of 14 years or who self-identified as gay or bisexual was eligible to

be interviewed. For households containing more than 1 MSM, 1 eligible household member was randomly selected for the interview. Of the 2881 (78% participation rate) respondents, 2402 (83%) agreed to be contacted in the future to be asked to participate in other studies.

GMTS Procedure

From January through December 1999, at the time of either the 18-month or the 24-month UMHS update (depending on the date of the baseline UMHS interview), respondents were asked to participate in the GMTS survey. In the case of hard-to-reach respondents, at least 30 call attempts were made (including calls to a "contact" who would know how to reach the respondent). Information from informants revealed that 27 men had died since the baseline UMHS interview. Of the 2375 remaining respondents, 1780 (75%) completed the GMTS survey.

Weighting

The original UMHS weights for the 1780 respondents were adjusted for attrition, operationalized as GMTS nonresponse within each city stratum. Using an iterative ranking procedure, we made a second adjustment so that the weighted GMTS sample matched the weighted UMHS sample (within 1%) on 7 variables: age, city, education, employment status, income, race/ethnicity, and relationship status. A third adjustment was made so that GMTS respondents did not deviate by more than 2% from UMHS respondents on approximately 30 variables drawn from all sections of the UMHS survey. Thus, the weighted GMTS sample remains representative of the urban MSM population originally sampled in UMHS.

Measures

The GMTS survey included standard tobacco items to measure current smoking, smoking cessation, current and lifetime tobacco use patterns, tobacco attitudes, and exposure to environmental tobacco smoke. The UMHS survey indexed basic demographic characteristics, presence of symptoms of depression (Center for Epidemiological Studies—Depression scale[19–23]), gay community involvement and affiliation, social network

characteristics, and recent substance use and sexual activities.

Data Analysis Plan

Tobacco use. Prevalence of current and lifetime tobacco use was reported for the probability sample of urban MSM who completed the GMTS survey (n=1780). We rigorously compared current smoking rates (smoking a cigarette in the past 30 days) of MSM in our probability sample with rates of a general sample of similarly aged men living in the same geographic areas with data from the 1999 NHIS (National Center for Health Statistics, Research Data Center). We defined the NHIS population for analysis as all adult (aged ≥18 years) males living in the following metropolitan statistical areas: Chicago, Los Angeles, New York City, and San Francisco. For this general-population sample of men, we used measures of smoking status in the past month overall and stratified by selected demographic characteristics: age, education, and race/ethnicity. All data were weighted. All analyses were finalized with the appropriate survey (SVY) algorithm in Stata (Stata Corp, College Station, Tex) so that standard errors were corrected for weighting, stratification and clustering could be obtained, and the appropriate procedures and confidence intervals could be reported.

Smoking cessation. Among MSM former smokers (no smoking in the past 30 days), we described their previous quit histories and identified the characteristics and correlates of cessation. Following the recommendations of Hosmer and Lemeshow,[24] univariate analyses using χ^2 and t test procedures were run to identify which variables to include in multivariate regression procedures, operationally defined as having a P value of less than .25. A series of theoretically derived hierarchical-stepwise (forward or backward stepwise within blocks) multivariate logistic regression analyses were run with SPSS 10.0 (SPSS Inc, Chicago, Ill) to determine the final model.

RESULTS

Tobacco Use Patterns of Urban MSM

Current smoking patterns. Among this probability sample of urban MSM, 31.4% (95% confidence interval [CI]=28.6%, 34.3%)

reported smoking during the past 30 days. Daily smoking was reported by 25.7% (95% CI=23.2%, 28.4%), nondaily regular smoking was reported by 1.8% (95% CI=1.1%, 3.0%), and nonregular smoking (smoking on a nondaily or nonroutine basis) was reported by 4.8% (95% CI=3.8%, 6.2%). On average, 4.6% (95% CI=2.8%, 7.4%) of MSM daily smokers reported smoking 3 or more packs of cigarettes per day, 8.8% (95% CI=5.7%, 13.19%) smoked 1.5 packs per day, 38.8% (95% CI=33.0%, 44.9%) smoked 1 pack per day, 16.0% (95% CI=12.2%, 20.7%) smoked less than 1 pack but more than 5 cigarettes per day, 31.1% (95% CI=25.9%, 36.8%) smoked 1–5 cigarettes per day, and 0.7% (95% CI=0.2%, 2.3%) smoked fewer than 1 cigarette a day.

Lifetime tobacco use patterns. Lifetime rates of other tobacco use were 57.5% (95% CI= 54.5%, 60.5%) for cigars, 33.4% (95% CI= 30.8%, 36.2%) for pipes, and 13.6% (95% CI=11.7%, 15.7%) for chewing tobacco. Nondaily regular use (on a routine basis, but not necessarily every day) was reported by 3.3% (95% CI=2.3%, 4.6%) for cigars, 5.8% (95% CI=4.6%, 7.2%) for pipes, and 1.2% (95% CI=0.8%, 2.0%) for chewing tobacco. Lifetime cigarette smoking rates were 52.5% (95% CI=49.5%, 55.5%) for daily smoking, 3.3% (95% CI=2.4%, 4.6%) for nondaily regular smoking, and 3.6% (95% CI=2.6%, 4.8%) for nonregular smoking. Eleven percent (95% CI=9.4%, 13.0%) of urban MSM had never smoked a cigarette, whereas 29.6% (95% CI=26.9%, 32.4%) reported having smoked fewer than 100 cigarettes in their lifetimes.

Current Smoking by Urban MSM vs Men

Among urban MSM, 31.4% were current smokers, compared with 24.7% of men in general (P<.01). City differences were found only for Chicago, where 39.0% (95% CI=31.1%, 47.5%) of MSM were current smokers, compared with 27.5% (95% CI=21.5%, 33.5%) of all men. Urban MSM, regardless of level of education, smoked at higher rates: 38.8% of MSM versus 25.0% of all men with less than a college education (P<.001), 31.3% of MSM versus 21.0% of all men with a college degree (P<.05), and 22.7% of

TABLE 1—Current Cigarette Use: A Comparison of Rates and Characteristics in the Gay Men's Tobacco Study (GMTS) and the National Household Interview Study (NHIS)[a]

	GMTS 1999[b] (n = 1780), % (95% CI)	NHIS 1999[c] (n = 832) % (95% CI)
Overall**	31.4 (28.6, 34.3)	24.7 (21.2, 28.2)
City		
San Francisco	30.4 (25.5, 35.6)	23.6 (08.5, 38.7)
Los Angeles	28.3 (23.2, 34.0)	23.1 (18.6, 27.6)
New York	32.3 (27.8, 37.2)	23.4 (10.9, 35.8)
Chicago*	39.0 (31.1, 47.5)	27.5 (21.5, 33.5)
Education		
< College degree***	38.8 (33.3, 44.6)	25.0 (20.3, 29.8)
College degree*	31.3 (27.3, 35.6)	21.0 (13.7, 28.2)
Advanced degree**	22.7 (18.2, 28.0)	10.2 (02.8, 17.6)
Age, y		
18–29	33.0 (26.1, 40.7)	23.9 (17.1, 30.8)
30–39	33.6 (29.3, 38.1)	32.8 (24.7, 41.0)
40–49	30.9 (25.7, 36.7)	23.8 (16.9, 30.6)
50–59	30.3 (22.7, 39.2)	23.4 (14.9, 31.9)
≥ 60	19.5 (11.9, 30.2)	16.5 (10.3, 22.7)
Race/ethnicity		
Hispanic	31.2 (22.7, 41.3)	24.7 (19.3, 30.1)
Non-Hispanic White	31.2 (28.1, 34.4)	24.9 (19.5, 30.4)
Non-Hispanic African American	41.1 (28.7, 54.6)	26.4 (15.9, 36.9)
Non-Hispanic other	27.4 (17.6, 40.1)	18.3 (09.5, 29.0)

Note. CI = confidence interval. Smoking rate is the prevalence of current smoking, defined as having smoked a cigarette in the past 30 days. Both GMTS and NHIS data are restricted to men aged 18 years and older residing in San Francisco, Los Angeles, New York, or Chicago.
[a]The statistical comparison is $z = (P_1 - P_2)/\mathrm{SQRT}\,(\mathrm{SE}_1^2 + \mathrm{SE}_2^2)$, where P is the weighted proportion and SE is the adjusted standard error of the proportion.
[b]The weighted proportions and adjusted standard errors for those proportions were obtained with the SVYTAB procedure in Stata (Stata Corp, College Station, Tex).
[c]The weighted proportions and adjusted standard errors for those proportions were provided by the National Center for Health Statistics and were obtained with the CROSSTAB procedure in SUDAAN (Research Triangle Institute, Research Triangle Park, NC).
*$P < .05$; **$P < .01$; ***$P < .001$.

MSM versus 10.2% of all men with an advanced degree ($P<.01$) (Table 1).

Smoking Cessation Among Urban MSM

Smoking prevalence. Among the urban MSM, 26.9% (95% CI=24.3, 29.6) were former smokers (had smoked at least 100 cigarettes lifetime but no smoking during the past 30 days), 20.0% (95% CI=17.8%, 22.4%) used to smoke regularly or daily but had not smoked for 1 year or more, 3.6% (95% CI=2.7%, 5.0%) were regular or daily smokers who had not smoked for at least 3 months but less than 1 year, and 1.6% (95% CI=1.0, 2.8) had not smoked for more than 30 days but less than 3

months. Another 1.6% (95% CI=1.1, 2.5) never smoked regularly and had not smoked in the past 30 days.

Cessation attempts and methods. MSM former smokers (no smoking in the past 30 days) reported an average of 2 prior quit attempts, and the majority reported quitting because of health concerns. Reported methods used to quit included cutting down by smoking fewer cigarettes (46.7%), smoking a lower-nicotine brand (42.0%), and using nicotine replacement products (19.0%) as well as other methods such as participating in smoking cessation classes (10.3%). Still more strategies included receiving advice and support from medical or other health care pro-

viders (8.0%), reading self-help materials (9.8%), and making lifestyle changes in diet or exercise (9.6%).

Characteristics and Correlates of Cessation

Bivariate findings. Compared with current smokers, former smokers were older ($P<.001$) and more educated ($P<.01$). Differences related to race/ethnicity, HIV serostatus, employment, income, and California residency were not found. (We checked for California residency because smoking prevalence estimates are commonly lower in California than in Illinois and New York.) Table 2 presents the full results.

Multivariate findings. Independent correlates of smoking cessation identified in the final multivariate model are presented in Table 3. The Hosmer–Lemeshow goodness of fit test suggests a very strong fit ($P=.991$); however, a complex set of factors was identified. That is, compared with MSM current smokers, former smokers were more likely to be older ($P<.000$) and to report shorter smoking histories ($P<.000$), earlier onset of daily or regular smoking ($P<.000$), heavier smoking ($P<.000$), parental smoking ($P<.000$), primary partnership with a former smoker ($P<.000$), being romantically attracted to nonsmokers ($P<.000$), no or few gay or bisexual friends who smoke ($P<.005$), and many gay or bisexual friends ($P<.05$).

Two independent correlates of smoking cessation were having many gay or bisexual friends and having few or no gay or bisexual friends who smoked. MSM who reported that more than half of their friends were gay or bisexual were more likely (Odds ratio [OR]= 2.5; 95% CI=1.1, 5.5) to report cessation compared with MSM who reported that fewer than half of their friends were gay or bisexual. MSM who reported that none or almost none of their gay or bisexual friends smoked were almost 4 times more likely (OR=3.8; 95% CI=1.1, 8.4) to report smoking cessation than those who reported all or almost all of their friends smoked.

DISCUSSION

Our study is one of the first studies to use a probability sample to measure smoking

TABLE 2—Characteristics of Former Smokers and Current Smokers Among Urban Men Who Have Sex With Men: The Gay Men's Tobacco Study, January–December 1999

Characteristic	Former Smokers (n = 477), % (95% CI)	Current Smokers (n = 573), % (95% CI)
Age, y**		
18–29	26.9 (18.0, 38.1)	73.1 (61.9, 82.0)
30–39	39.2 (33.5, 45.2)	60.8 (54.8, 66.5)
40–49	47.9 (40.7, 55.2)	52.1 (44.8, 59.3)
50–59	56.7 (46.6, 66.3)	43.3 (33.7, 53.4)
≥ 60	77.0 (64.7, 85.9)	23.0 (14.1, 35.4)
Race/ethnicity		
African American	25.6 (13.6, 42.9)	74.4 (57.1, 86.4)
White	47.3 (43.2, 51.4)	52.7 (48.6, 56.8)
Asian/Pacific Islander	35.3 (17.6, 58.3)	64.7 (41.7, 82.4)
Latino/Hispanic	39.7 (26.9, 54.2)	60.3 (45.8, 73.2)
Native American	51.6 (30.1, 72.5)	48.4 (27.5, 69.9)
Education**		
< College degree	37.8 (31.7, 44.3)	62.2 (55.7, 68.3)
College degree	45.3 (39.8, 51.0)	54.7 (49.0, 60.2)
Advanced degree	56.7 (48.8, 64.3)	43.3 (35.7, 51.2)
HIV serostatus		
HIV+	40.4 (32.1, 49.4)	59.6 (50.6, 68.0)
HIV–	46.5 (42.0, 51.0)	53.5 (49.0, 58.0)
Do not know/never tested	44.5 (33.2, 56.3)	55.5 (43.7, 66.8)
Sexual orientation*		
Gay	48.3 (44.2, 52.4)	51.7 (47.6, 55.8)
Heterosexual	43.5 (23.6, 65.8)	56.5 (34.3, 76.4)
Bisexual	30.9 (20.3, 44.0)	69.1 (56.1, 79.7)
Other	24.9 (12.2, 44.1)	75.1 (55.9, 87.8)
State of residence		
California (San Francisco, Los Angeles)	46.5 (41.4, 51.6)	53.6 (48.4, 58.6)
Non-California (New York, Chicago)	44.5 (39.0, 50.1)	55.5 (49.9, 58.6)

Note. CI = confidence interval; NS = not significant.
*P < .03; **P < .001.

rates among MSM and to support earlier reports[1–4] that MSM appear to smoke at higher rates than do men in general. Including the 1999 NHIS data, which contain some proportion of MSM in the sample and so presumably raise prevalence rates for men, is important for further analysis. We could reasonably assume that the disparities in smoking would likely be even greater if we could clearly compare the two groups. Our study adds strong evidence that urban MSM smoke at high rates, and it advances the argument that they should be identified as population to be prioritized for intensive and targeted tobacco control efforts. Furthermore, considering that MSM already experience the burden of serious health problems such as HIV/AIDS, which tobacco use may exacerbate, and that the tobacco industry targets the gay and lesbian population,[5–8] the case for such concentrated efforts is even more persuasive.

To effectively implement and monitor any such targeted efforts requires that a measure of sexual orientation or same-gender behavior be added to local, state, and national behavioral surveys.[25] The costs of constructing this probability sample of urban MSM were very high. If data on sexual orientation or same-gender behavior were routinely collected in basic health surveys at every juris-diction level, public health problems such as smoking, depression, cancer, and heart disease could be assessed and monitored.

Our study is the first study to examine the topic of smoking cessation among MSM, and our findings are interesting in light of the larger body of smoking cessation research.[26–30] Most noteworthy, we found that fewer MSM were former smokers and that more quit attempts had been made than in a general-population cohort sample.[24] Consistent with previous research, however, we found that most MSM tried to quit by reducing smoking and using nicotine replacement products. A smaller number of MSM former smokers also relied on a variety of services such as group cessation classes or advice and assistance from medical or other health care providers.

A complex and sometimes counterintuitive set of individual, relational, and social factors were associated with cessation. We found that cessation for MSM was related to older age and partner smoking status.[28,31] As among the general public, successful quitting for aging MSM may be strongly motivated by the emergence of serious health concerns or by the accumulated skills, willpower, resources, and resolve that often come with experience. Similarly, the effects of relational and environmental support from a former-smoking partner may be just as important to MSM as they are to men and women in general. We did not find that sociodemographic characteristics such as race/ethnicity and education were significantly associated with cessation in the final multivariate model, a result that was consistent with some[28,31] but not all previous studies.[26]

A significant departure from earlier cessation research was our finding that indicators of nicotine addiction were positively associated with cessation for MSM. We found that MSM former smokers were more likely to report heavier smoking and earlier onset of regular or daily use, whereas most studies have found the opposite—that cessation is more common for those who are "less" addicted (i.e., smoke fewer cigarettes and start later in life). Perhaps the trajectories of smoking and quitting for MSM are in some ways unique and supported by complex and interacting factors specific to MSM themselves, their rela-

TABLE 3—Final Multivariate Model of Cessation (Former vs Current Smokers) Among Urban Men Who Have Sex With Men (n = 1050): The Gay Men's Tobacco Study, January–December 1999

	Adjusted Odds Ratio (95% Confidence Interval)	P Value
Age, y**		
18–29	1.0	
30–39	3.9 (1.7, 8.6)	.006
40–49	14.9 (5.6, 39.2)	.001
50–59	78.6 (19.1, 323.2)	.000
≥ 60	512.3 (104.2, 2518.3)	.001
Race/ethnicity		
Anglo-American	1.0	
African American	1.5 (0.5, 5.6)	.481
Asian/Pacific Islander	1.0 (0.3, 3.2)	.975
Latino/Hispanic	1.3 (0.5, 3.4)	.494
Native American	1.4 (0.3, 5.9)	.672
Age at onset of regular smoking, y**		
< 17	5.8 (2.4, 14.0)	.001
17–18	6.2 (2.7, 14.0)	.001
19–21	3.8 (1.9, 7.5)	.001
≥ 22	1.0	
No. of years smoked**		
1–8	191.7 (50.8, 718.8)	.001
9–16	47.1 (15.4, 143.8)	.001
17–25	12.1 (4.9, 30.0)	.001
≥ 26	1.0	
Average no. of cigarettes smoked daily**		
< 6	1.0	
6–15	0.7 (0.4, 1.5)	.395
16–25	2.2 (1.1, 4.3)	.014
> 25	6.9 (3.0, 15.8)	.001
Parents smoked**	3.0 (1.7, 5.4)	.001
Romantically attracted to nonsmokers**		
Low agreement	1.0	
Moderate agreement	2.9 (1.4, 6.0)	.001
High agreement	5.3 (2.7, 10.5)	.001
Very high agreement	26.3 (10.5, 66.2)	.001
Partner smoking status**		
No partner	1.0	
Never smoker	1.0 (0.6, 1.8)	.999
Current smoker	1.0 (0.4, 2.6)	.939
Former smoker	9.0 (3.9, 20.5)	.001
Proportion of friends who are gay or bisexual*		
Fewer than half	1.0	
About half	2.4 (1.1, 5.3)	.015
More than half	2.5 (1.1, 5.5)	.007
Proportion of gay or bisexual friends who smoke*		
None/almost none	3.8 (1.1, 8.4)	.034
Fewer than half	1.4 (0.5, 3.8)	.547
About half	1.0 (0.4, 2.7)	.997
Most	0.7 (0.2, 3.0)	.589
All or almost all	1.0	
Closest friend smokes	1.8 (1.5, 5.1)	.001

Continued

tionships, and their community experiences. Or perhaps our finding is an anomaly that will be corrected by future cessation work with MSM. In the absence of additional research or new theories or hypotheses to guide us, we believe that these contradictory findings and possibilities should be viewed with caution and curiosity.

Finally, we found that cessation was associated with social factors of greater importance to MSM than to the general population. MSM former smokers were more likely to report social networks consisting of no or few gay or bisexual friends who smoked and many gay or bisexual friends in general. Although the importance of social context variables has been recognized in cessation research,[32] our findings suggest that factors unique to MSM may play an important role in positively influencing cessation. For example, MSM smokers may be personally motivated to quit smoking to be accepted and to fit in with their social networks, or the norms, values, interests, and activities of their networks may serve to interrupt smoking and support cessation. The size and density of social networks also may be an important avenue to explore in researching cessation with MSM. Perhaps getting involved and making more friends within MSM or gay communities decreases perceived stress and increases social support, factors that previous research has found to be associated with smoking.[33–37] Future studies need to uncover how these unique social factors operate and contribute to cessation by MSM.

Limitations

Our findings should be interpreted with the following limitations in mind. As described in detail in previously published reports from the baseline UMHS study,[16,38] some subsegments of urban MSM (e.g., men in low-density urban, suburban, and rural areas) were undersampled, which could affect smoking prevalence estimates. Self-reported cessation could not be confirmed by biochemical validation, because the required biological specimens (e.g., urine or saliva samples) were not collected during this random-digit-dialed survey. However, Velicer and colleagues[39] found that misreporting rates are very low, typically near 0 and seldom exceeding 5%. Our 30-day point prevalence rate of cessation

TABLE 3—Continued

Experiences of harassment for being gay bisexual by age 16		
Never/once	1.0	
2–3 times	1.6 (0.8, 3.0)	.143
≥4 times	1.9 (1.1, 3.3)	.025
Age at coming out, y		
<18	1.0	
18-19	1.6 (0.8, 3.3)	.154
20-23	0.9 (0.4, 1.9)	.743
≥24 or never	1.8 (0.9, 4.0)	.087
Sexual orientation		
Gay	1.0	
Heterosexual	3.0 (0.9, 10.4)	.086
Bisexual	0.5 (0.1, 1.6)	.156
Other	1.1 (0.2, 5.5)	.872
No heavy alcohol use (past 6 mo)[a]	2.0 (0.9, 4.7)	.078
Seeking sexual partners in public places (past 6 mo)		
Never	1.0	
1–6 times	0.6 (0.3, 1.1)	.075
≥7 times	1.2 (0.6, 2.2)	.629

*$P<.05$; **$P<.001$.
[a]Not consuming an average of 5 or more drinks at least once per week.

is likely an overestimation of successful cessation. Given the high rates of recidivism during the quitting trajectory, it would have been useful to measure prolonged or continuous abstinence rates for multiple time periods, such as 3, 6, or 12 months or longer. Similarly, including standard measures of stages of change; nicotine dependence; and exposure to tobacco advertising, antitobacco messages, and workplace smoking bans would have been informative. Data used to identify characteristics and correlates of cessation were drawn from 2 different points in time: the baseline UMHS survey (November 1996–February 1998) and the follow-up GMTS survey (January–December 1999). Significant advances in smoking cessation research with MSM could be achieved by simply gathering information within the same time period, as well as by studying in "real time" the process of and factors related to quitting and maintenance. Finally, secular trends toward cessation during the 1990s lowered the rates of smoking by MSM over time, making it difficult to compare our data with earlier cross-sectional studies.

Implications and Future Directions

Our prevalence data strongly support earlier reports that urban MSM appear to smoke at higher rates than do men in general. Traditional tobacco control professionals and organizations need to recognize urban MSM as a priority population for targeted efforts, given that they have high rates of tobacco use but have been underserved and unstudied. Adding measures of sexual orientation or same-gender behavior to existing population health surveys will substantially advance, inform, and support such targeted efforts. Likewise, officials and agencies serving MSM and gay communities need to recognize smoking as a serious public health threat to these men. For example, health researchers could consider whether (and how) to include smoking in their health studies of MSM or smoking cessation services in their programs, and community leaders could advocate for and guide MSM in integrating comprehensive tobacco control efforts into their community agencies. It will be important to advance this study by filling in the gaps in basic tobacco control knowledge such as exposure to antitobacco messages or tobacco advertising.

Our findings on cessation suggest that although some urban MSM have benefited and will continue to benefit from standard cessation treatments, we do not yet know whether differences exist in treatment use, satisfaction, and success (i.e., quit rates) between MSM and men in general. When such basic research is lacking, particularly for priority populations, the tobacco use and dependence guidelines[40] recommend that investigations be conducted to examine the treatment needs of the population and to develop culturally appropriate interventions. Our findings are a first step but will need to be further supported by future cessation research that uncovers the process and mechanisms related to cessation for MSM as tobacco prevention and treatment efforts targeted to these men are developed. ∎

About the Authors

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Contributors

G. Greenwood, J. Paul, D. Binson, L. Pollack, J. Catania, and R. Stall designed the study, constructed the questionnaire, oversaw the fieldwork, and completed the data collection. G. Greenwood took the leadership role in writing the article, leading the analysis team, and revising the article. J. Paul, D. Binson, L. Pollack, J. Catania, J. Chang, G. Humfleet, and R. Stall participated in designing the analysis plan and in reviewing and writing the article. L. Pollack and J. Chang analyzed the data. R. Stall served as the original principal investigator for this study.

Human Participant Protection

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