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## Knowledge, Motivations, and Practices Regarding Indoor Tanning Among Men Who Have Sex With Men in the San Francisco Bay Area

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Compared with heterosexual men, gay and bisexual men in the United States have reported higher odds of having had skin cancer and of having tanned indoors.<sup>1</sup> Research among young women has shown that indoor tanners have misconceptions about indoor tanning risks and report higher rates of substance use.<sup>2,3</sup> Few studies to date have examined indoor tanning among gay and bisexual men.<sup>4,5</sup> This study assessed knowledge, motivations, and practices regarding indoor tanning among men who have sex with men (MSM) in the San Francisco Bay Area (SF).

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**Author Contributions:** Ms Morrison had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

*Study concept and design:* Morrison, Pascua, Linos.

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## Methods |

We analyzed cross-sectional data from the National HIV Behavioral Surveillance (NHBS) survey, conducted annually in high-risk populations for HIV acquisition.<sup>6</sup> The 2017 survey studied MSM, with participants selected through venue-based, time-space sampling.<sup>6</sup> Trained interviewers conducted interviews anonymously. Eligible participants were born male, identified as male, had ever had oral or anal sex with another man, were 18 years or older, resided in San Francisco, San Mateo, or Marin Counties, and were able to speak English or Spanish.

In addition to questions about HIV and substance use, the SF survey included questions regarding indoor tanning's skin cancer risks and tanning bed use in the past 12 months. Indoor tanning questions were prospectively designed and added to the SF NHBS survey. Participants reporting indoor tanning were asked about frequency of, and reasons for, indoor tanning, and utility of using tanning beds to get a base tan before sunny vacations. Questions were based on previously validated questions. The NHBS in SF received institutional review board approval from the UCSF Committee on Human Research.

We used R statistical software (version 3.5.1, R Foundation) to calculate descriptive statistics and 95% confidence intervals (CIs), and compared responses regarding indoor tanning risks and substance use among indoor tanners and nonindoor tanners.

## Results |

Among 508 participants, the median age was 38.5 years (range, 19–78 years). Among 495 of 508 (97.4%) participants responding to questions about indoor tanning, 37 reported indoor tanning in the past 12 months (7.5%; 95% CI, 5.2%–9.8%). Other responses are shown in Table 1. Knowledge regarding skin cancer risks associated with indoor tanning did not differ significantly among indoor tanners and nonindoor tanners. Binge drinking during the past 30 days, but not recreational drug use, was higher among indoor tanners compared with nonindoor tanners.

Among indoor tanners, the most commonly reported reason for indoor tanning was improved attractiveness. Other reasons included mood elevation, relaxation, looking slimmer, and positive feedback on appearance from friends (Table 2). Among indoor tanners, 21 of 37 (56.8%; 95% CI, 40.8%–72.8%) endorsed the idea that using a tanning bed to get a base tan before a sunny vacation can protect one's skin.

## Discussion |

In this study, 12-month indoor-tanning prevalence among MSM in SF was comparable to that among California MSM (7.4%; 95% CI, 4.0%–13.1%) and substantially higher than that among heterosexual men (1.5%; 95% CI, 1.1%–1.9%) in a previous study.<sup>1</sup> Indoor tanners who are MSM in SF harbored misconceptions regarding skin cancer risks and utility of base tans, suggesting a role for educational interventions to help reduce indoor tanning prevalence among MSM in SF. Because feeling more attractive was a common motivation for indoor tanning, appearance-based interventions should also be considered. Elevated

binge-drinking behaviors among indoor tanners suggest a correlation between indoor tanning and risky alcohol consumption for MSM, an association previously demonstrated among young women.<sup>3</sup>

Limitations of this study include a small geographic area and self-reported indoor tanning behaviors. Small sample size is another limitation, and may account for inadequate statistical power to detect differences across certain comparisons. Further studies of indoor tanning among MSM are needed to develop tailored interventions to curb indoor tanning behaviors and skin cancer prevalence among this high-risk population.

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**Table 1.** Knowledge, Motivations, and Practices Related to Indoor Tanning and Substance Use Among 495 Men Who Have Sex With Men in the San Francisco Bay Area Who Responded to Questions About Indoor Tanning in the Past 12 Months

Variable	No. (%)		P Value
	Total	Current Use of Indoor Tanning <sup>a</sup>	
		Yes	No
No.	495 <sup>b</sup>	37 (7.5)	458 (92.5)
Indoor tanning increases the risk of developing melanoma and other types of skin cancer <sup>c</sup>			
Disagree	27 (5.3)	4 (10.8)	23 (5.06)
Neutral	98 (19.3)	10 (27.0)	88 (19.2)
Agree	370 (72.8)	23 (62.1)	347 (75.8)
<b>Substance Use</b>			
Have you ever in your life shot up or injected any drugs other than those prescribed for you? <sup>d</sup>			
Yes	62 (12.5)	7 (18.9)	55 (12.0)
No	433 (87.5)	30 (81.1)	403 (88.0)
In the past 12 months have you used any noninjection drugs not prescribed for you? <sup>d</sup>			
Yes	313 (61.6)	28 (75.7)	285 (62.2)
No	182 (35.8)	9 (24.3)	173 (37.8)
In the past 30 days, how many times did you drink 5 or more drinks of any kind of alcohol in about 2 hours? <sup>e</sup>			
Mean (SD)	2.6 (5.9)	5.3 (7.9)	2.4 (5.6)
No.	430	31	399

<sup>a</sup>Defined as having used a tanning bed within the past 12 months.

<sup>b</sup>Of the 508 participants in the sample, 495 answered questions regarding indoor tanning

<sup>c</sup>Kruskal-Wallis rank sum test.

<sup>d</sup>Pearson  $\chi^2$  test.

<sup>e</sup>One-way ANOVA test.

**Table 2.**

Knowledge, Motivation, and Frequency of Use of Tanning Beds Among Current Tanners in the 2017 National HIV Behavioral Surveillance Survey of Men Who Have Sex With Men

Survey Questions	Indoor Tanners, No. (%)
Why do you tan?	
It makes me feel more attractive.	21 (56.8)
I am in a better mood when I tan.	12 (32.4)
It's a stress-free way to relax.	10 (27.0)
I look slimmer when I tan.	7 (18.9)
My friends say I look good when I am tan.	6 (16.3)
To protect your skin, it is a good idea to use a tanning bed to get a base tan before a sunny vacation.	
Disagree	10 (27)
Neutral	6 (16.2)
Agree	21 (56.8)
During the past 12 mo, how frequently would you say you have used an indoor tanning device?	
Less than once per 6 mo	14 (37.8)
Less than once per month	6 (16.2)
Less than once per week	4 (10.8)
Less than twice per week	6 (16.2)
More than twice per week	7 (18.9)

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