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Up in Smoke: Vanishing Evidence of Tobacco Disparities in the Institute of Medicine's Report on Sexual and Gender Minority Health

Joseph G. L. Lee, MPH, John R. Blosnich, PhD, MPH, and Cathy L. Melvin, PhD, MPH

Joseph G. L. Lee is with the Department of Health Behavior, Gillings School of Global Public Health, The University of North Carolina at Chapel Hill. John R. Blosnich is with the Department of Psychiatry, University of Rochester Medical Center, Rochester, NY. At the time of this study, Cathy L. Melvin was with the Department of Maternal and Child Health, Gillings School of Global Public Health, The University of North Carolina at Chapel Hill.

Abstract

The Institute of Medicine (IOM) released a groundbreaking report on lesbian, gay, bisexual, and transgender (LGBT) health in 2011, finding limited evidence of tobacco disparities. We examined IOM search terms and used 2 systematic reviews to identify 71 articles on LGBT tobacco use. The IOM omitted standard tobacco-related search terms. The report also omitted references to studies on LGBT tobacco use ($n = 56$), some with rigorous designs. The IOM report may underestimate LGBT tobacco use compared with general population use.

Tobacco remains the leading cause of premature mortality in the United States¹; however, burdens of the epidemic are not equally shared among groups with various sociodemographic characteristics.^{2–4} Over the past 20 years, evidence has accumulated that lesbian, gay, bisexual, and transgender (LGBT) individuals (i.e., sexual and gender minorities) are among the groups at higher risk for smoking.⁵

Two separate systematic reviews about the prevalence⁵ and etiology⁶ of smoking among sexual minorities report on the results of 63 unduplicated studies. Combined, the results suggest “compelling evidence that an elevated prevalence of tobacco use among LGBT men and women exists” compared with heterosexual men and women,^{5(p279)} a sentiment echoed by both the American Lung Association⁷ and Healthy People 2020.⁸

By contrast, in the groundbreaking report on LGBT health by the Institute of Medicine (IOM),⁹ which is used by federal agencies and funders to set public health policy and priorities, tobacco use is largely absent and the limited discussion is equivocal: smoking rates among youths “may be higher”^{9(p4)} and adults “may have higher rates.”^{9(p5)} Given the seeming disconnect between the tobacco literature and the findings of the IOM report, we sought to identify possible gaps in tobacco-related evidence in the IOM report.

Correspondence should be sent to Joseph G. L. Lee, MPH, CPH, Department of Health Behavior, CB 7440, Chapel Hill, NC 27599 (jose.lee@unc.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

Contributors: J. G. L. Lee conducted all analyses and drafted the article. J. R. Blosnich and J. G. L. Lee originated the study and contributed equally to data collection. J. R. Blosnich provided critical feedback on all versions of and helped conceptualize the article. C. L. Melvin provided critical feedback and guidance on the article.

Human Participant Protection: No human participant protection was required because no human participants were involved in this study.

Note. Opinions are those of the authors and do not represent those of the funder or institutions.

Methods

We analyzed search terms used by the IOM report in relation to PubMed indexing terms, a vocabulary of standardized Medical Subject Headings (MeSH) terms. We cataloged studies relating to LGBT tobacco use from the 2 aforementioned systematic reviews. To address the inclusion of studies published since the systematic reviews, we pooled our collective knowledge of papers on sexual minority tobacco use with a database of publications from the Network for LGBT Health Equity (a Centers for Disease Control and Prevention–funded tobacco disparity network) and the American Lung Association report. Because the IOM noted that “most research in [smoking] has been conducted among women, with much less being known about gay and bisexual men,”^{9(p5)} we tabulated gender in the list of studies. We used the prevalence systematic review⁵ to code studies by sampling strategy. We cross-referenced identified studies with the IOM citations, noting whether references were used to cite tobacco-related information. We conducted text searches by author last names in a PDF version of the IOM report.

Results

The IOM used health-related themes or keywords ($n = 65$), ranging from broad (e.g., “demography”) to specific (e.g., “mood disorders”) to search within a set of articles identified with LGBT content. The terms “tobacco,” “smoking,” or any other related MeSH terms (e.g., “tobacco use disorder”) are absent.^{9(p313–315)} However, the IOM included “substance-related disorders,” thus capturing articles indexed with “tobacco use disorders.” Table 1 shows the number of articles associated with common tobacco-related MeSH terms hierarchies in the PubMed database.

Any papers categorized under the MeSH term “smoking” or “tobacco smoke pollution” could have been missed by the IOM.

We identified 63 unduplicated studies (Appendix A available as a supplement to the online version of this article at <http://www.ajph.org>) from our 2 systematic reviews and 8 key articles^{10–17} published between May 2007 and January 2011, for a total of 71 unduplicated studies, of which 28 (39%) were cited by the IOM report. The IOM report cited only 15 of the 71 studies (21%) for their tobacco content, and of these, only 8 studies used population-based samples. Thus, at least 18 population-based studies of sexual minority tobacco use were not included in the IOM’s tobacco evidence (Figure 1). Of these 18 studies, only 2 with small sample sizes found no evidence of a disparity or potential cause of disparity (Appendix A available as a supplement to the online version of this article at <http://www.ajph.org>). The IOM cited 3 studies we did not identify, 2 of which were convenience samples to identify transgender smoking estimates.^{18–20}

Our systematic reviews identified 44 studies about tobacco use among gay or bisexual men and 55 studies with lesbian or bisexual women, including reports of tobacco use for both genders ($n = 28$).^(5,6)

Discussion

The IOM report is a groundbreaking, comprehensive report that informs policy and research priorities for sexual minority health. Certainly, the IOM cannot be expected to cite all studies on any subject, but as a foundational report, the evidentiary building blocks of that foundation may have cracks relating to one of the largest—and clearest—causes of death and disability among the LGBT population: tobacco use. Fewer than 1 in 4 of the studies identified on sexual minority tobacco use were included in discussions of tobacco in the IOM report. The report summarized findings from the 18 studies on smoking and substance

abuse, noting “much less [is] known about gay and bisexual men”^{9(p233)}; however, we identified at least 44 studies that report on gay and bisexual men’s tobacco use, some with rigorous sampling strategies.

These discrepancies are not inconsequential; tobacco remains a primary contributor to poor population health and one that is increasingly overlooked.²¹ Measured language is important; however, the IOM report’s conditional language does not accurately represent the nearly 2-decades-long narrative of evidence showing that smoking prevalence is higher among sexual minority populations than among the general population and that disparity does exist in rates of tobacco use.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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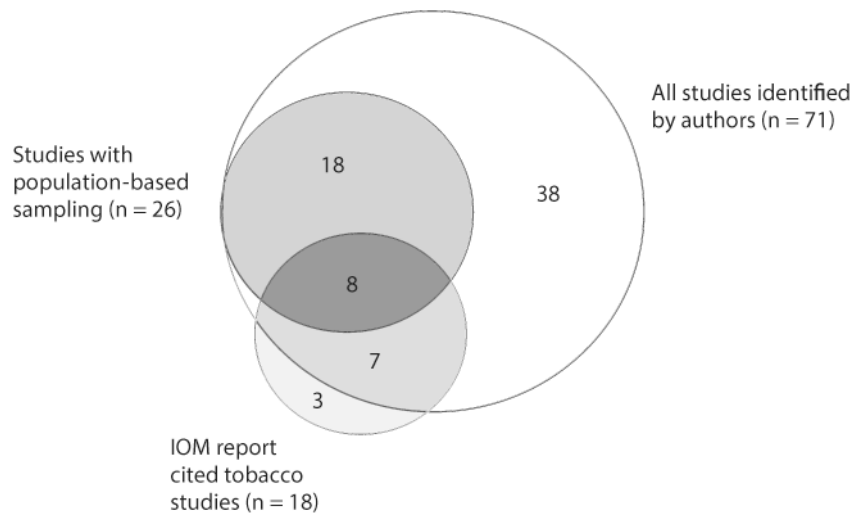


Figure 1. Venn diagram of identified literature, population-based sampling strategy, and use in Institute of Medicine (IOM) report: 1987–January 2011.

Table 1
Standardized Tobacco-Related Medical Subject Headings Terms and Associated “Hits”
in PubMed: September 13, 2011

Used by Institute of Medicine	Medical Subject Headings Hierarchy of Key Tobacco Terms	Articles Retrieved, No.
No	Psychiatry and psychology category habits smoking behavior and behavior mechanisms behavior	168 570
No	Psychiatry and psychology category tobacco use cessation smoking cessation behavior and behavior mechanisms behavior	22 571
No	Health care category pollution air pollution tobacco smoke pollution environment and public health public health environmental	8930
	Chemicals and drugs category tobacco smoke pollution complex mixtures particulate matter smoke	
Yes	Diseases category substance-related disorders tobacco use disorder	7031
	Psychiatry and psychology category tobacco use disorder mental disorders substance-related disorders	

Note. Numbers of articles include search as keyword in addition to Medical Subject Headings terms.