Published in final edited form as:

Ann Epidemiol. 2013 July ; 23(7): 448–451. doi:10.1016/j.annepidem.2013.04.009.

Physical health indicators among lesbian, gay, and bisexual U.S. Veterans

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Abstract

Purpose—To provide information about lesbian, gay and bisexual (LGB) veterans' health status, diagnoses, and health screening behaviors compared with heterosexual veterans.

Methods—Data are from ten states' 2010 Behavioral Risk Factor Surveillance System (BRFSS) surveys that contained sexual orientation data for veterans (n=11,665). Chi-square tests and multiple logistic regression were used to examine outcomes among LGB and heterosexual veterans.

Results—More LGB veterans than heterosexual veterans reported current smoking, not seeking medical care due to cost, and activity limitations. Compared with heterosexual veterans, LGB veterans had greater odds of ever having an HIV test (OR=5.42; 95%CI: 3.28–8.96) but lower odds of diabetes diagnosis (0.55 (0.34–0.89)).

Conclusions—Findings from this sample suggest patterns of health behaviors and outcomes among LGB veterans that are both unique from and similar to results from general samples of LGB persons. With the formal end of the “Don’t Ask, Don’t Tell” policy that discriminated against LGB people in the military, institutions such as the Department of Veterans Affairs (VA) are likely to see an increase in its current population of LGB veterans. The VA stands in a unique place to meet the health equity needs of this minority population.

Introduction

Among veterans, it is estimated that nearly 900,000 are lesbian, gay, or bisexual (i.e., LGB or sexual minority) [1]. The limited research about LGB veterans identifies health issues such as suicidal risk [2, 3] and increased odds of sexual assault and substance abuse behaviors when compared with their heterosexual peers. [4] However, to date, there is no research about physical health conditions and preventive health behaviors among this population of veterans in spite of increasing attention to health disparities (e.g., smoking, HIV, poor mental health) among sexual minority populations. [5]

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The Institute of Medicine recently recommended the inclusion of sexual orientation in electronic health records. [5] Although the Department of Veteran Affairs (VA) operates the single largest healthcare system in the United States, it currently has no way to identify sexual minority status, and thus cannot examine health needs among this group of veterans. The purpose of this paper is to provide preliminary information about LGB veterans' health status, diagnoses, and health screening behaviors compared with their heterosexual veteran counterparts.

Methods

The Behavioral Risk Factor Surveillance System (BRFSS) is coordinated by the Centers for Disease Control and Prevention (CDC) but administered individually by all states, U.S. territories, and the District of Columbia to probability-based samples of non-institutionalized adults over the age of 18.[6] CDC provides a mandatory core questionnaire, and states may add their own survey items to the core questionnaire. Data for the currently analysis are from BRFSS surveys from 10 states that elected to add a survey item to assess self-identified sexual orientation in 2010 (Alaska, Arizona, California, Maine, Massachusetts, Montana, New Mexico, North Dakota, Washington and Wisconsin). Eight states asked "Do you consider yourself to be..." and two states asked "Which term best describes you?" There was also variation in when these items were asked during the interview, and in introductory remarks and/or instructions provided to interviewers in how to respond if the respondent didn't understand the question or asked for a rationale before providing a response. All ten states used similar response codes: heterosexual/straight; homosexual/gay/lesbian; bisexual; other.

For military service, respondents were asked, "Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit? Active duty does not include training for the Reserves or National Guard, but DOES include activation, for example, for the Persian Gulf War." Response options were: (1) Yes, now on active duty; (2) Yes, on active duty during the last 12 months, but not now; (3) Yes, on active duty in the past, but not during the last 12 months; (4) No, training for Reserves or National Guard only; (5) No, never served in the military. Veteran status was defined by response options 2 and 3. Other demographic characteristics included age in years, sex, race/ethnicity, education (high school diploma or less versus at least some college), and income (<\$25,000/yr, \$25,000–\$50,000/yr, >\$50,000/yr).

We examined health indicators from five domains that were measured among both men and women. *Health-related quality of life* included two items: self-rated general health status (Excellent/Very Good/Good vs. Fair/Poor); number of days in the last 30 days that physical health was not good (≥ 14 days vs. <14 days). *Healthcare access* included four items: have any form of health insurance coverage; have one person that respondents considers as personal doctor/health care provider; did not seek medical care in the last 12 months due to the cost of care; had a routine check-up by a doctor in the last 12 months. *Physical health conditions* included whether the respondent had ever been diagnosed or told by a health professional that they had: diabetes (excluding gestational diabetes), heart attack, stroke, coronary heart disease, or asthma; has activity limitations due to physical, mental, or emotional problems; or uses assistive equipment due to a health problem. *Preventive health behaviors* included having a dental visit in the last 12 months; having a dental cleaning in the last 12 months; having a flu shot in the last 12 months; ever had a sigmoidoscopy/ colonoscopy (respondents ≥ 50 years of age); and ever had an HIV test (respondents <65 years of age). *Health risk indicators* included binge drinking one or more times in the last 30 days; current smoking; and being overweight or obese. Wording of 2010 questionnaire items

are available from the CDC (<http://www.cdc.gov/brfss/questionnaires/pdf-ques/2010brfss.pdf>).

The analytic sample was comprised of respondents who self-identified as veterans and provided information about their sexual orientation (n=11,665). Chi-square tests were used to examine differences between LGB and heterosexual veterans on the selected health indicator and demographic variables (age was examined with a t-test). All bivariate differences in health indicators significant at the $p < .10$ level were tested with logistic regression models to adjust for confounding demographic variables. All analyses were completed using Stata/SE Version 12. This study was approved by the Institutional Review Board at the Syracuse Veterans Affairs Medical Center.

Results

LGB veterans were slightly younger, had higher levels of educational attainment, and had a larger proportion of females than heterosexual veterans (Table 1). Significantly more LGB veterans reported current smoking, not seeking medical care in the last 12 months due to cost, and activity limitations, but these differences were accounted for by other demographic characteristics in multivariate models. LGB veterans also had significantly lower prevalence of being overweight/obese than heterosexual veterans (62.2% vs. 72.9%, respectively), and only 9.4% of LGB veterans reported ever being diagnosed with diabetes compared with 16.7% of their heterosexual veteran peers ($p < .05$). After adjusting for demographics, LGB veterans had significantly lower odds of overweight/obesity, and they had 45% lower odds of being ever diagnosed with diabetes than their heterosexual counterparts. LGB veterans had over five times the odds of ever having an HIV test had 53% higher odds of having a flu shot in the last 12 months (Table 2).

Discussion

Results in this sample suggest some patterns of health behaviors and outcomes among LGB veterans similar to results from general samples of LGB persons, such as no differences in colonoscopy or sigmoidoscopy [7] but greater odds of HIV screening. [8] Compared with their heterosexual veteran peers, LGB veterans had higher crude prevalence of several health indicators noted in previous research using general population samples, such as current smoking, activity limitations, and lifetime asthma diagnosis. [8, 9]

Among this sample of veterans, overweight/obesity was significantly less common among LGB respondents than among heterosexual individuals, which primarily has been observed in research with men. [10] The inverse has been observed among women in that lesbians tend to have higher prevalence of overweight/obesity. [11] Women only comprised 7.7% of the sample in the present analysis, hindering analysis of potential effect modification of sex on prevalence of overweight/obesity. Larger samples of women veterans with sufficient representation of lesbian and bisexual women are needed to further explore potential disparities in overweight/obesity.

In addition to lower burdens of weight-related risk factors, LGB veterans also had significantly lower odds of ever having a diabetes diagnosis, even after adjusting for demographic characteristics. A post hoc analysis that also adjusted for overweight/obesity nearly attenuated the association between LGB status and diabetes diagnosis (OR=0.60, 95% CI:0.37–0.98; $p=.04$). Research about diabetes among LGB populations is discordant. For example, Conron et al. did not find differences in diabetes diagnoses among a large sample of LGB adults from the Massachusetts BRSS.[8] Conversely, Dilley and colleagues analyzed BRFSS data from Washington state and found no difference among men but noted

that bisexual women had higher odds of diabetes than heterosexual women. [9] Furthermore, in a sample of older LGB adults in California, Wallace et al. found no differences in diabetes among women, but noted that gay men had higher odds of diabetes than heterosexual men. [12] The lower odds of diabetes in this sample may be due to the lower prevalence of the primary risk factor for diabetes (i.e., overweight/obesity). Future research is needed both to replicate these findings among LGB and heterosexual samples and to explore if LGB veterans may have distinct health patterns when compared with their LGB non-veteran peers.

LGB veterans had significantly greater odds of getting a flu shot in the past 12 months. This finding may be an artifact of HIV status, since HIV disproportionately affects sexual minority men and HIV-positive individuals are among populations strongly encouraged to get seasonal flu vaccines. BRFSS does not collect information about HIV status, though future research with sexual minority veterans (particularly men) should be cognizant of the modifying effects that HIV status may have on certain health behaviors.

An interesting constellation of findings surfaced in healthcare utilization. Despite being similar to heterosexual veterans in terms of having health insurance, a primary care provider, and a check-up in the last 12 months, a significantly larger proportion of LGB veterans reported not seeking medical care due to cost. This difference was attenuated after adjusting for demographic information that included income. Although not statistically significant at $p < .05$, more LGB veterans reported less than \$25,000/year and less of them reported earning more than \$50,000/year than their heterosexual peers. While these results indicate that income – and not sexual orientation – may be responsible for not seeking healthcare, the situation remains that LGB veterans may be putting off medical care due to financial hardships. Further research is needed to explore the healthcare needs of LGB veterans, including different types of insurance coverage such as Veterans Health Administration (VHA) service use.

This study has several limitations. Analyses were not weighted due to several reasons. First, the limited statistical power from the small sample size of LGB veterans from specific states resulted in estimates with questionable precision from which to infer parameter estimates. Second, the BRFSS is not designed to representatively sample from either veteran or LGB populations, and it is unclear how demographic differences among veteran and LGB may bias parameter estimates. For example, on average veterans are older than the general population, and research has shown that older respondents tend not to respond to self-identified sexual orientation survey items. [9, 13, 14] Moreover, there are racial/ethnic differences among respondents to self-identified sexual orientation measures. [15] Consequently, unweighted results are not representative, population-based estimates and should be interpreted with caution. Additionally, decreased statistical power of the small sample may have limited detection of significant differences. Furthermore, some of the health indicators included in these analyses differ by sex (e.g., gay men are less likely to be overweight/obese than heterosexual men, but lesbians are more likely to be overweight/obese than heterosexual women [10, 11]). Thus, while stratification by sex rather than covariate adjustment for sex may have provided more information about these disparities, males comprised 92.3% of the analytic sample due to the focus of veterans, and the small sample of women did not facilitate stratification. Finally, the self-reported measures of LGB may have produced response bias by identifying persons comfortable with disclosing their sexual orientation. Misclassification bias may also have stemmed from inability to verify veteran status. To the extent possible, replications of these findings need to be examined using different samples of LGB veterans from other large, national surveillance surveys.

This preliminary report of physical health indicators among LGB veterans identifies differences in health outcomes and preventive health behaviors compared with heterosexual veterans. With the formal end of the “Don’t Ask, Don’t Tell” policy that discriminated against LGB people in the military, institutions such as the Department of Veterans Affairs are likely to see an increase in its current population of LGB veterans. The Institute of Medicine recently issued a report recommending the ability for inclusion of sexual orientation in electronic medical records.[5] By incorporating such recommendations, healthcare systems such as the VHA can equip themselves with knowledge about the health needs of their LGB patients, assure that providers are aware of specific health issues relevant to LGB populations, and deliver culturally competent care.

Acknowledgments

The authors thank the BRFSS coordinators in each participating state for their cooperation with data access. This work was supported partially by the Department of Veterans Affairs VISN-2 Center of Excellence for Suicide Prevention and by a post-doctoral fellowship to [author name masked for review] in an Institutional National Research Service Award from the National Institute of Mental Health (*grant number masked for review*). The opinions expressed in this work are those of the authors and do not represent the funders, institutions, or the U.S. Government.

Abbreviations/Acronyms

LGB	lesbian, gay, bisexual
BRFSS	Behavioral Risk Factor Surveillance System
HIV	Human Immunodeficiency Virus
OR	odds ratio
CI	confidence interval
VA	Department of Veterans Affairs
CDC	Centers for Disease Control and Prevention

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Table 1

Demographics and Health Indicators among Veterans, by Sexual Orientation

	LGB (n=233) n (%)	Heterosexual (n=11,432) n (%)	p
<i>Demographics</i>			
Age (Mean, SE)	61.8 (0.86) *	65.6 (0.13)	<.001
<i>Sex</i>			
Male	180 (77.3)	10,587 (92.6)	<.001
Female	53 (22.7) *	845 (7.4)	
<i>Education</i>			
High school diploma or less	51 (21.9)	3,536 (31.0)	.003
At least some college	182 (78.1) *	7,884 (69.0)	
<i>Income</i>			
<\$25,000/yr	66 (30.3)	2,629 (25.2)	.087
\$25,000–\$50,000/yr	74 (33.9)	3,402 (32.6)	.672
>\$50,000/yr	78 (35.8)	4,409 (42.2)	.056
<i>Race</i>			
White, non-Hispanic	197 (86.0)	9,920 (87.9)	.383
Non-white/Hispanic	32 (14.0)	1,362 (12.1)	

Note: LGB=lesbian, gay, bisexual

*
=p<.05

Table 2

Prevalence and Odds of Health Indicators among Veterans, by Sexual Orientation

	Bivariate Analysis			Multivariate Analysis
	LGB n (%)	Heterosexual n (%)	p	LGB status AOR (95%CI)
Health-related Quality of Life				
Fair/poor health status	47 (20.2)	2,390 (21.0)	.757	-
14 days of poor physical health	45 (19.5)	1,707 (15.2)	.072	1.37 (0.97–1.96)
Healthcare Access				
Have health insurance coverage	220 (94.4)	10,797 (94.6)	.899	-
Have a primary care physician	212 (91.0)	10,088 (88.4)	.227	-
Did not seek medical care in last 12 months due to cost	26 (11.2) *	664 (5.8)	.001	1.42 (0.90–2.26)
Had check-up in last 12 months	182 (78.1)	8,781 (77.3)	.767	-
Physical Health Conditions				
Ever dx with diabetes	22 (9.4) *	1,914 (16.7)	.003	0.55 (0.34–0.89) *
Ever had heart attack	28 (12.0)	1,499 (13.2)	.596	-
Ever had stroke	12 (5.2)	711 (6.2)	.503	-
Ever dx with coronary heart disease	28 (12.1)	1,492 (13.2)	.622	-
Ever dx with asthma	37 (15.9) *	1,186 (10.4)	.007	1.35 (0.92–1.98)
Activity limitations due to physical, mental, or emotional problems	97 (41.8) *	3,928 (34.5)	.021	1.19 (0.89–1.58)
Use equipment due to disability	40 (17.2)	1,722 (15.1)	.397	-
Preventive Health Behaviors				
Dental visit in last 12 months	165 (70.8)	7,849 (69.1)	.575	-
Dental cleaning in last 12 months	150 (72.5)	7,174 (70.1)	.552	-
Flu shot in last 12 months	150 (65.8) *	6,663 (59.3)	.047	1.53 (1.13–2.07) *
Ever had sigmoidoscopy/colonoscopy ¹	145 (79.2)	7,298 (75.4)	.234	-
Ever had HIV test ²	102 (81.6) *	2,145 (44.2)	<.001	5.42 (3.28–8.96) *
Health Risk Indicators				
Binge drinking in last 30 days	20 (14.6)	1,234 (18.9)	.206	-
Current smoker	48 (21.0) *	1,660 (14.6)	.008	1.29 (0.91–1.85)
Overweight or obese	145 (62.2) *	8,245 (72.9)	<.001	0.63 (0.47–0.84) *

Note: AOR=adjusted odds ratio; CI=confidence interval; all multivariate analyses adjusted for sex, age, race/ethnicity, education, and income.

*
=p<.05¹
respondents ages 50 only²
respondents ages 18–64 only