



## Self-Rated Health Among Gay, Lesbian, and Bisexual Adults: Rural/Urban Differences

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### Key Findings

- **Two national datasets (NHIS and BRFSS) revealed statistically significant differences in self-rated health between rural LGB respondents and heterosexual respondents with LGB respondents more likely to report fair or poor self-rated health. No statistically significant differences were found in the HINTS dataset.**
- **In multivariable models adjusting for age, sex, race, ethnicity, educational attainment, and income, LGB rural adults had lower likelihood of excellent/very good/good self-rated health, compared with heterosexual rural adults in both the NHIS and the BRFSS datasets.**
- **Among rural adults, there were differences in self-rated health by race and ethnicity and sexual orientation.**

### Purpose

Research has documented worse health outcomes and constrained access to care (e.g. routine medical visits, health insurance coverage, and continuity of care) for lesbian, gay, and bisexual (LGB) adults. Rural residents also experience persistent disparities in health and access to care. However, there is limited information on rural/urban differences in health by sexual orientation, despite the importance of examining health inequities associated with intersecting and marginalized identities. This policy brief examines differences in self-rated health by sexual orientation and rural/urban location.

### Background and Policy Context

Discriminatory and homophobic place-based policies can perpetuate poor health outcomes and constrained access to care for lesbian, gay, and bisexual (LGB) adults. For instance, according to the Movement Advancement Project, six states have passed religious exemption laws permitting health care professionals to decline serving patients, including lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) clients, based on religious freedom protections.<sup>1</sup> Moreover, rural LGB residents experience limited access to LGB-affirming providers because of their rural context<sup>2</sup> and because of discrimination and stigma associated with their sexual orientation,<sup>3</sup> all of which may lead to intersecting risks of poorer health for rural LGB adults.

Recent analyses of Behavioral Risk Factor Surveillance System (BRFSS) data highlighted how LGB experiences of state-based legal protections (e.g. legal same-sex marriage, nondiscrimination policies in employment, housing, etc.) are associated with better self-rated health and modified by other sociodemographic characteristics, including gender and race.<sup>4-6</sup> Very little research has examined self-rated health at the intersection of sexual orientation and rurality. Our study extends this body of research by examining the intersections of sexual orientation, geographic context, and race/ethnicity and their associations

with self-rated health.

We leveraged three nationally representative and population-based datasets in this brief to document the robustness of our findings. The data sets we used are unique in their data collection and availability on sexual orientation and rurality — and the surveys used here are among the most widely used to monitor health and access to care in the United States.

## Approach

For this study we used data from three national datasets: 2019-2020 data from the National Health Interview Survey (NHIS); 2019-2020 data from the Behavioral Risk Factor Surveillance System (BRFSS); and 2020 data from the Health Information National Trends Survey (HINTS). Notably, 2020 self-rated health was likely impacted by the COVID-19 pandemic as data are collected throughout the year. In all three datasets the self-rated health question refers to the respondent's health at the time of the survey.

We first conducted bivariate analyses identifying rural/urban differences in self-rated health based on sexual orientation. Self-rated health was defined by a single question asking respondents if they would describe their current health as excellent, very good, good, fair, or poor. In the NHIS, BRFSS, and HINTS datasets, we categorized all respondents who reported that their sexual orientation was “lesbian or gay”, “bisexual” or “something else” as LGB and all respondents who reported that their sexual orientation was “straight, that is, not lesbian or gay” as heterosexual. Of note, the BRFSS sexual orientation question is optional and only 30 states ascertained sexual orientation in 2019 and 32 states in 2020.

Survey weights were used in all analyses to report nationally representative estimates. We used chi-squared tests to detect significant differences by rurality. We then conducted multivariate logistic regressions adjusting for age, sex, race/ethnicity, educational attainment, and income to examine the likelihood of reporting excellent/very good/good self-rated health for rural LGB adults compared to urban LGB adults. We also conducted within-rural analyses by race and ethnicity (non-Hispanic white, non-Hispanic Black, American Indian, Asian/Pacific Islander, Hispanic/Latino ethnicity, and other/multi-Racial) within the BRFSS, the dataset with

the largest sample size.

In all three datasets, the NHIS, BRFSS, and HINTS, rural status was defined at the county level using the 2013 NCHS Urban-Rural Classification Scheme to include all non-metropolitan counties; urban status included all metropolitan counties.

## Results

Table 1 shows differences across datasets in self-rated health between LGB respondents and heterosexual respondents in rural and urban contexts. NHIS data revealed statistically significant differences in self-rated health between rural LGB respondents and heterosexual respondents ( $p<0.01$ ) with LGB respondents more likely to report poor or fair self-rated health and no significant difference in self-rated health between urban LGB and heterosexual respondents ( $p=0.43$ ). BRFSS data revealed statistically significant differences among rural LGB and heterosexual respondents ( $p=0.01$ ) and urban LGB and heterosexual respondents ( $p<0.01$ ) with LGB respondents being more likely to report poor or fair self-rated health in both geographic contexts. HINTS data found no statistically significant differences between groups (results available upon request).

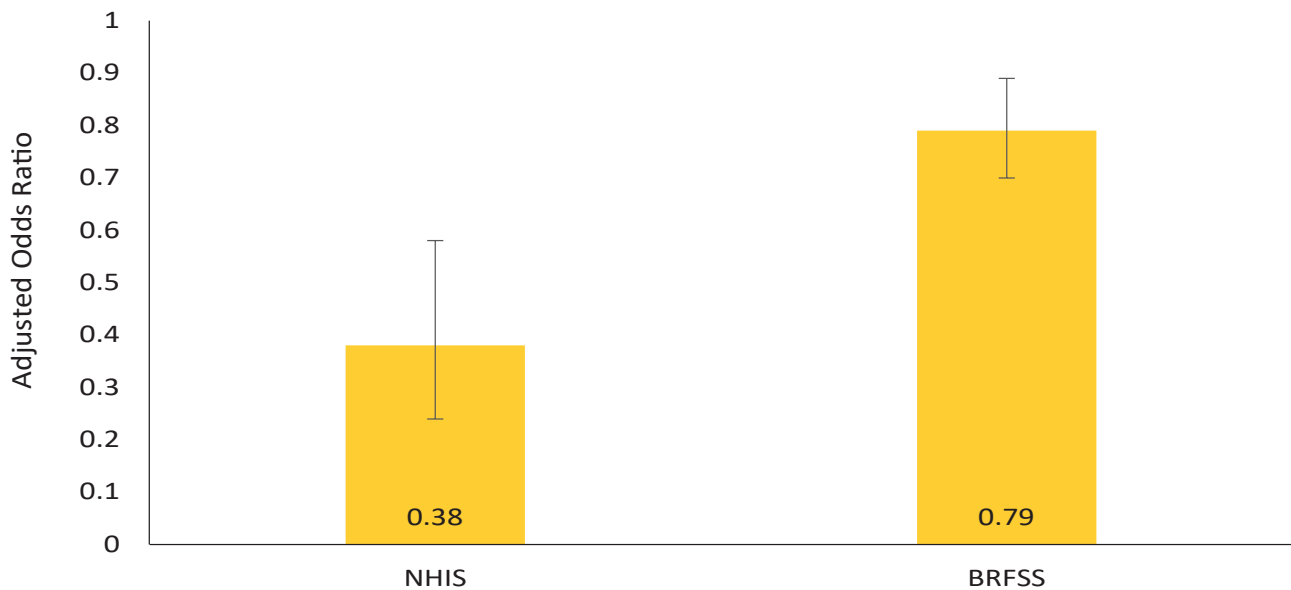
Figure 1 shows the results of multivariate logistic regression for BRFSS and NHIS data sets, adjusting for age, sex, race/ethnicity, educational attainment, and income. In both data sets, LGB rural adults had lower likelihood of excellent/very good/good self-rated health, compared with heterosexual rural adults in both the NHIS (adjusted odds ratio [AOR]: 0.38,  $p<0.001$ , 95% confidence interval [CI]: 0.24-0.58) and the BRFSS (AOR: 0.79,  $p<0.01$ , 95% confidence interval [CI]: 0.70-0.89). HINTS data was not included in these analyses as bivariate differences were not significant.

Within-rural differences in reporting self-rated health as excellent/very good/good by race and ethnicity are shown in Table 2 for the BRFSS data set. The NHIS did not have sufficient sample size to disaggregate race and ethnicity to the same degree as the BRFSS. BRFSS data revealed significant differences across racial and ethnic groups for heterosexual adults only with the largest percentage of excellent/very good/good self-rated health (0.87) being reported by Asian/Pacific Islander respondents and the lowest percentage being reported by Black respondents (0.70).

**Table 1. Self-Rated Health by Sexual Orientation and Rurality**

BRFSS 2019-2020					NHIS 2019-2020				
	n	Excellent/ Very Good/ Good	Fair/ Poor	p-value		n	Excellent/ Very Good/ Good	Fair/ Poor	p-value
All respondents	405,719			<0.001	All respondents	50,974			0.924
Lesbian, gay, bisexual	21,775	79.3%	20.7%		Lesbian, gay, bisexual	49,226	85.8%	14.2%	
Heterosexual	383,944	83.4%	16.6%		Heterosexual	1,748	85.7%	14.3%	
Rural only	56,499			0.009		7,841			<0.01
Lesbian, gay, bisexual	2,250	75.1%	24.9%		Lesbian, gay, bisexual	169	69.9%	30.1%	
Heterosexual	54,249	80.1%	19.9%		Heterosexual	7,672	80.6%	19.4%	
Urban only	349,220			<0.001		43,133			0.436
Lesbian, gay, bisexual	19,525	79.6%	20.4%		Lesbian, gay, bisexual	1,579	87.4%	12.6%	
Heterosexual	329,695	83.7%	16.3%		Heterosexual	41,554	86.5%	13.5%	

**Figure 1. Adjusted Odds Ratio of Good/Very Good/Excellent Self-Rated Health among Rural Adults**



*Note: Figure shows the adjusted odds ratios and 95% confidence intervals for rural LGB adults (compared with rural heterosexual adults), adjusted for age, sex, race/ethnicity, educational attainment, and income.*

**Table 2. Within-Rural Self-Rated Health by Racial/Ethnic Groups**

BRFSS Within Rural Good/Very Good/Excellent Self-Rated Health by Race/Ethnicity and Sexual Orientation in 2019 & 2020								
n		White, Non-Hispanic	Black, Non-Hispanic	Hispanic	American Indian	Asian/Pacific Islander	Other/ Multiracial	p
2,209	Lesbian, gay, bisexual	73.8%	73.4%	75.1%	75.5%	99.0%	82.7%	0.7524
53,589	Heterosexual	81.7%	69.9%	77.5%	74.8%	87.2%	73.7%	<0.001

## Discussion and Implications

Our analyses of NHIS and BRFSS data reveal that rural LGB adults report worse self-rated health than urban and rural heterosexual residents. Moreover, rural LGB adults have lower likelihood of reporting excellent/very good/good self-rated health than rural heterosexual adults even after adjusting for demographic factors. These findings align with past research findings indicating poorer health outcomes for LGB adults<sup>7,8</sup> and poorer health outcomes for rural adults.<sup>9-11</sup> This study advances sexual minority health research by revealing the compounding effect of being LGB and rural with regard to self-rated health.

This study also highlights the importance of collecting and reporting nationally representative data on both rurality and sexual orientation. We were able to illuminate the intersecting health inequities for rural and LGB adults because of available data; relying on nationally administered health surveys bears some limitations. For example, gender identity is not included in all national data sources, and sample sizes are small enough among rural LGB adults that it is difficult to explore nuance by race, ethnicity, and other demographic characteristics, as well as to explore nuance by state or region. Moreover, the HINTS data did not reveal statistically significant differences by sexual orientation, likely due to small sample sizes. Going forward, we need greater investment in data collection and reporting on geography, sexual orientation, and gender identity. The soon to be released 2022 United States Transgender Survey holds promise as a way to help fill the gap in available data. It is notable that data used in this study were collected in 2020, during the onset of the COVID-19 pandemic and therefore likely reflects the deleterious impact the

pandemic had on health. Additional research leveraging qualitative and community-based research methods will continue to illuminate rural LGB health disparities and needs.

Despite these limitations, this study highlights the fact that more public health efforts, initiatives, and resources are needed to achieve health equity for rural LGB adults. For example, rural health care providers should be trained on the unique health needs of LGB populations. Such training and educational outreach should be expansive, but also focus on the rural safety net system, including providers and staff at Critical Access Hospitals, Rural Health Clinics, federally qualified health centers (FQHCs), and providers within the U.S. Department of Veteran's Affairs (VA). Meanwhile, LGB-affirming health centers should continue to reach out and provide telehealth services to rural LGB patients when transportation or local availability are problematic for rural LGB people. During LGBTQ community events, LGBTQ-affirming health care systems and navigators can connect rural LGB people to available health care services and supports. Ultimately, both policy and programmatic attention are required to ensure that health inequities on the basis of sexual orientation and rurality are addressed so that rural LGB adults do not face health disparities at the intersection of the two.

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