POLICY BRIEF
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Prevalence of Chronic Conditions by Sexual Orientation and Rural-Urban Location

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Key Findings

- **Compared with heterosexual adults and urban lesbian, gay, and bisexual (LGB) adults, rural LGB adults have the highest rates of chronic conditions overall and were the most likely to report having three or more chronic conditions (43.8% for rural LGB adults).**
- **Rural LGB adults have statistically higher rates of arthritis, depression, and diabetes, compared with urban LGB adults.**
- **Rural LGB adults have statistically higher rates of asthma, depression, and anxiety, compared with rural heterosexual adults.**
- **More than half (54.0%) of rural LGB adults reported a diagnosis of depression, and 43.8% reported a diagnosis of anxiety — rural LGB adults reported higher levels of depression and anxiety than any other group.**

Purpose

There are well-documented disparities in health by both sexual orientation and rurality; however, very little research looks at the intersection of the two, and even less research examines differences in rates of specific health conditions. In this policy brief, we look at rates of individual chronic conditions, as well as differences in the number of chronic conditions by sexual orientation and rural-urban location.

Background and Policy Context

There are well-documented disparities in health by both sexual orientation and rurality, with lesbian, gay, and bisexual (LGB) adults experiencing poorer health outcomes than heterosexual adults[1,2] and rural residents experiencing poorer health outcomes than urban residents.[3] There are many reasons for rural LGB health disparities, including homophobia and stigma, discriminatory policies, and structural urbanism – that is, when rural communities are disadvantaged relative to urban communities.[4] Both LGB individuals and rural residents also have more barriers to accessing health care, including transportation, insurance coverage, access to providers, and discrimination.[5–8] There are also fewer social supports and reduced access to lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ+)-affirming providers in rural communities, since many are based in urban areas.[9]

Despite the similar challenges that rural residents and LGB individuals face in accessing health care and achieving positive health outcomes, few studies focus on the intersection of rurality and sexual orientation. This policy brief addresses that gap using nationally representative data to examine rates of chronic conditions by rurality and sexual orientation. Chronic conditions require regular and reliable access to care and are among the most useful measures of population health in that they are relatively common and strongly associated with mortality and morbidity. Detecting differences in chronic conditions is one important way to reveal population-level health inequities.

Approach

For this study, we used data from the 2019-2020 National Health Interview Survey (NHIS), accessed through the IPUMS Health Surveys at the University of Minnesota. The NHIS is a nationally representative survey of the civilian, noninstitutionalized population in the U.S. The NHIS began including data on sexual orientation in 2013 and rurality in 2019 in the public use files. The 2019-2020 NHIS also included a longitudinal component, in which some respondents were invited to participate both years. For this brief, we only used baseline responses for all respondents.

We used publicly-available data on rural-urban location within the NHIS to classify respondents as rural, including all non-metropolitan counties, and urban, including all metropolitan counties. Non-metropolitan and metropolitan classifications are based on the 2013 NCHS Urban-Rural Classification Scheme.[10] In 2019-2020, sexual orientation was assessed using the question, "Do you think of yourself as gay/lesbian; straight, that is, not gay/lesbian; bisexual; something else; or you do not know the answer?" For this analysis, we defined lesbian, gay, bisexual (LGB) as including all respondents who answered gay/lesbian (1.6%), bisexual (1.4%), or something else (0.4%).

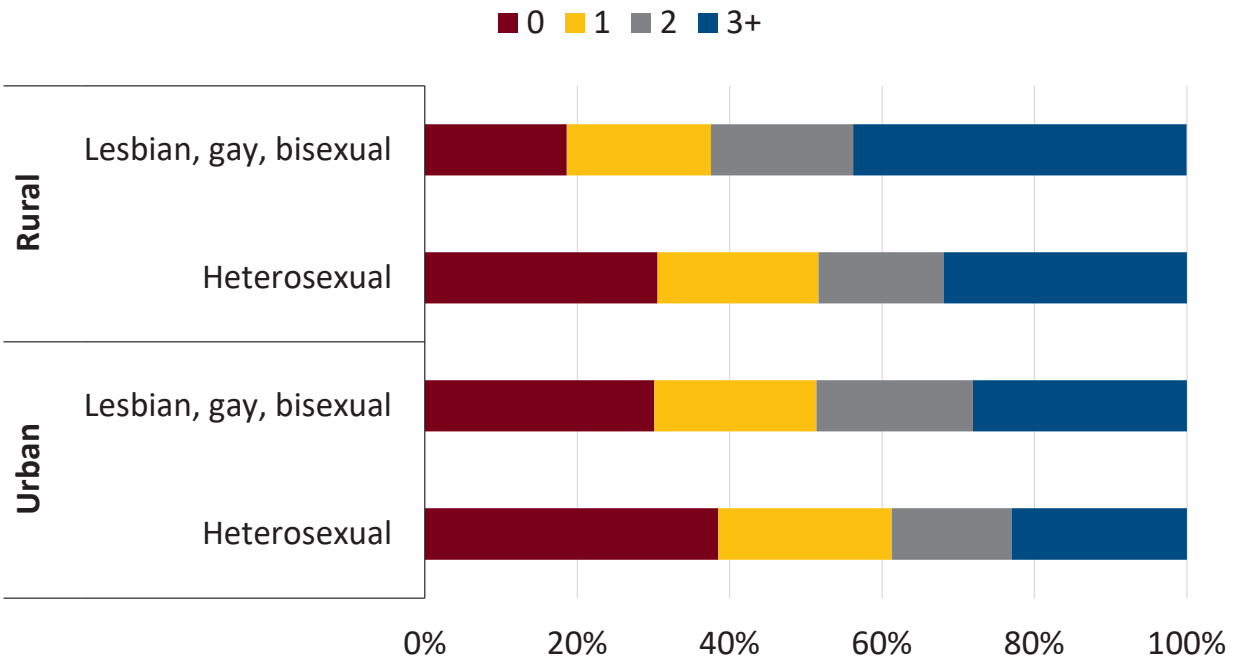
Chronic conditions included arthritis (also containing gout, lupus, and fibromyalgia), asthma, cancer, coronary heart disease, high cholesterol, depression, anxiety, diabetes, heart attack, hypertension, stroke, and chronic obstructive pulmonary disorder (COPD). In each case, respondents were asked whether they had ever received a diagnosis of that condition. We also created a composite measure for the cumulative number of chronic conditions each respondent reported, with categories of 0, 1, 2, or 3 or more.

For both the composite measure and each individual chronic condition, we used chi-squared tests to determine statistically significant differences between rural LGB and urban LGB adults. We also compared each chronic condition within rural residents (LGB vs. heterosexual) and within urban residents (LGB vs. heterosexual). We used *Stata version 17* for all analyses and employed survey weights to generate nationally representative estimates.

Results

Figure 1 shows the number of chronic conditions by sexual orientation and rurality. Rural LGB adults were the most likely to report having three or more chronic conditions (44%) and the least likely to report having zero chronic conditions (19%). In contrast, urban heterosexual adults were the most likely to report having zero chronic conditions (39%) and the least likely to report having three or more chronic conditions (23%).

Figure 1. Count of Chronic Conditions by Sexual Orientation and Rurality



Rural heterosexual adults and urban LGB adults reported similar rates of having zero chronic conditions (30% and 31%, respectively), but rural heterosexual adults were slightly more likely to report having three or more chronic conditions than urban LGB adults (32% vs. 28%).

Differences by sexual orientation within rural adults were considered statistically significant at $p<0.05$ and within urban adults at $p<0.001$. Differences between LGB adults by rurality were significant at $p<0.05$. Among rural adults with three or more chronic conditions, the mean number of conditions was 4.3 for both heterosexual adults and for LGB adults; among urban adults with three or more chronic conditions the mean number of conditions was 4.1 for heterosexual adults and 3.9 for LGB adults.

Table 1 shows the prevalence of chronic conditions by sexual orientation and rurality. The rural-urban differences among LGB adults were statistically significant for arthritis (29.4% vs. 14.7%, $p<0.001$), depression (54.0% vs. 39.3%, $p<0.01$), diabetes (12.3% vs. 4.8%, $p<0.001$), and hypertension (31.8% vs. 20.8%, $p<0.05$). Comparing LGB vs. heterosexual adults within rural and urban locations, LGB adults had higher rates of asthma, depression, and anxiety disorder. However, heterosexual adults had higher rates of several other chronic conditions compared with LGB adults within rural and urban locations, including coronary heart disease and high cholesterol.

Discussion and Implications

Despite the fact that disparities by rurality and sexual orientation are independently well documented, much less is known about how they intersect. This policy brief addresses that gap and in it, we found the highest rates of chronic conditions overall for rural LGB adults, which appear to be driven by high rates of asthma, depression, and anxiety disorder among LGB adults. While we cannot pinpoint the causes for this, it may be indicative of geographic isolation from LGBTQ+ organizations, LGBTQ+-serving establishments, and LGBTQ+ neighborhoods and communities—and addressing social supports for rural LGBTQ+ residents may help to alleviate the disparities in chronic disease we identified.[11]

These findings have multiple implications for policy and practice. First, co-morbidities require additional care,[12] including more care from specialists and assistance from care coordinators, including coordinators who can navigate fragmented mental and physical

Table 1. Prevalence of Chronic Conditions by Sexual Orientation and Rurality

	Rural			Urban		
Conditions	LGB	Heterosexual	P-value	LGB	Heterosexual	P-value
Anxiety	43.8%	16.5%	<0.001	36.4%	13.1%	<0.001
Arthritis***	29.4%	28.4%	0.820	14.7%	20.1%	<0.001
Asthma	29.2%	12.9%	<0.001	21.6%	13.6%	<0.001
Cancer	8.3%	12.4%	0.129	6.2%	9.2%	<0.001
COPD	6.4%	8.5%	0.419	5.6%	4.1%	<0.05
Coronary heart disease	2.1%	6.4%	<0.05	2.1%	4.4%	<0.001
Depression**	54.0%	17.8%	<0.001	39.3%	14.7%	<0.001
Diabetes***	12.3%	12.1%	0.954	4.8%	8.9%	<0.001
Heart attack	3.0%	4.9%	0.249	1.5%	2.8%	<0.01
High cholesterol	21.0%	29.2%	<0.05	17.6%	24.9%	<0.001
Hypertension*	31.8%	38.4%	0.171	20.8%	30.4%	<0.001
Stroke	1.9%	3.9%	0.120	1.8%	2.7%	<0.05
N	*171*	*7,674*		*1,579*	*41,571*	
Weighted percent	*3.3%*	*14.0%*		*3.2%*	*82.5%*	

*Note: Arthritis also includes gout, lupus, and fibromyalgia. Significant differences between rural LGB and urban LGB noted as: *p<0.05, **p<0.01, ***p<0.001.*

health services. The fact that rural LGB adults were the most likely of any group to have three or more chronic conditions speaks to the complexity of their care needs and the importance of ensuring access to both primary and specialist care in rural areas that is also LGBTQ+-affirming. To ensure that such care is available, more inpatient and outpatient mental health options are needed. Further, ongoing training for rural providers on how to be LGBTQ+-affirming is important – such training should include the entire care team.

Additionally, in cases when rural LGB adults are unable to find appropriate and LGBTQ+-affirming care in their local rural area, they may travel to urban areas for care[9,13–15]—meaning that urban providers should be educated and mindful about the unique circumstances in which rural LGB adults live. Telehealth may also be an important way for rural LGB residents to access LGBTQ+-affirming care,[16] but that requires flexible reimbursement policies, perhaps even across state lines. Access to telehealth also requires reliable and affordable access to broadband Internet, which remains a challenge in many rural areas.[17]

Limitations

Our findings should be considered in light of their limitations. First, we did not have sufficient sample sizes to examine differences detailed by sexual orientation, age, or by race and ethnicity (another layer of intersecting identities, where the health of community members is affected by the pervasive nature of racism). We also had insufficient data to examine differences by other intersectional identities, such as disability status and religiosity, all of which warrant further research. This reinforces the need for more nationally representative data collection that combines both sexual orientation and rurality. We were limited in our ability to look at differences across types or regions of rural places; we were also unable to investigate differences by gender identity with these data, which is a notable omission given ongoing debates about access to care for transgender and gender minority populations. More research is urgently needed in all of these areas.

Conclusion

Despite its limitations, this brief adds nuanced and much-needed information to the policy conversation about health disparities and equity for sexual minorities in the rural United States. The prevalence of chronic conditions in the rural LGB population compared to urban and heterosexual populations demonstrates the need for more and better health services to eliminate these disparities. Still, much more research is needed that focuses on the intersection of rurality and sexual orientation. Achieving rural health equity will require that all vulnerable populations are included in metrics monitoring health equity—including lesbian, gay, bisexual, transgender, and queer (LGBTQ+) populations.

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