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Disparities in Health Insurance and the Intersection of Race/Ethnicity, Sexuality, and Gender Identity

Authors: Dina Alnabulsi¹ and Ryan D. Talbert²

Corresponding author: Ryan D. Talbert <ryan.talbert@uconn.edu>

Abstract

Status characteristics including race, sexuality, and gender identity play a significant role in people's access to health and healthcare coverage. Despite documented disadvantages across these individual statuses (e.g., race), little research has investigated how the intersection of statuses affect health coverage. Drawing on an intersectional framework, this study uses data from the 2021 Behavioral Risk Factor Surveillance System to examine the association between health insurance and the intersections of race-ethnicity, sexual orientation, and gender identity (n=206,338). This study offers three important contributions to the research literature. First, this study represents one of the first to examine the intersection of important social status characteristics and health insurance status. Second, this study examines three indicators of healthcare coverage including status (i.e., insured or not), type (i.e., public, private, employer-based, or none), and denial of coverage (i.e., insurance refused to pay for cancer treatment). Third, we investigate healthcare disparities using data representative of thirty-two states that more holistically assess people's healthcare status and allow for greater generalizability. Findings show that Hispanic straight cismen are the least likely group to have insurance. White trans adults appear to be more likely to have insurance than many other groups. Trans adults are more likely to have public insurance if they are ethnoracially marginalized. Straight Black women have high likelihoods of their insurance denying coverage. These findings highlight critical gaps in access to healthcare and myriad disadvantages in coverage. Efforts to improve population health would benefit from an intersectional lens that focuses on how multiple status characteristics shape people's access to healthcare across the life course.

Keywords: Health Care; Intersectionality; Race, Class, Gender; Sexuality

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¹ Department of Sociology, University of Connecticut, Storrs, CT (BA)

² Assistant Professor, Department of Sociology, University of Connecticut, Storrs, CT ORCID: 0000-0001-5211-2838

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Introduction

Society has progressed in how people are identified. Identity plays a significant role in people's lives especially in healthcare. Race and ethnicity play a major role in environmental risks, exposure to toxins, and overall healthcare treatment and quality (Davis, Winslow, and Maume 2017). Marginalized sexualities and gender identities pose different health risks for Human Papillomavirus (HPV) and types of cancer such as breast, cervical, and ovarian (Shetty et al. 2016). While all four types of identities reflect structural positioning that can affect a person's health, it is important to understand that people have more than one identity. The intersection of identities must be taken into consideration to thoroughly assess a patient's health risks and access to treatment. Stereotypes, discrimination, and stigma produce components of stress that differentially expose and affect people with marginalized identities in healthcare. For instance, ethnoracially marginalized people and people a part of the lesbian, gay, bisexual, transgender, and queer community (hereafter, LGBTQ) have revealed fear and distrust in healthcare due to facing prejudice and discrimination in medical settings (Byrd, Toth, and Stanford 2018). However, mistreatment in healthcare extends far beyond physician-patient interactions; rather inequitable access to quality healthcare includes disparate coverage by health insurance plans. If one does not have insurance, then they face difficulty in accessing and receiving treatment, checkups, tests, and prescriptions. Thus, it is important to identify patterns of health insurance access and coverage across identities.

This study examines the association between health insurance and intersections of race-ethnicity, sexual orientation, and gender identity. The present study offers three important contributions to the research literature. First, this paper represents one of the first analyses to examine the intersection of important social status characteristics for health insurance status. This focus is important because the research literature has less often considered gaps in healthcare access across groups at the intersection of marginalized ethnoracial, gender, and sexuality identities. Foregoing studies tend to examine disparities by race, gender, or sexuality (Byrd, Toth, and Stanford 2018; Marinac et al. 2020; Ryan et al. 2020; Sohn 2017). For instance, 10.9 percent of Black folks were uninsured in 2021 compared to 7.2 percent of whites (Artiga, Garfield, and Orgera 2020). Less research considers the simultaneous effects of these statuses, and therefore, this study fills an important gap in the literature.

Second, this study examines three indicators of healthcare coverage including health insurance status, type, and denial of coverage. Multiple studies analyze one or two of these indicators (Ellis et al. 2018; Keisler-Starkey, Bunch, and Lindstrom 2023; Potter et al. 2018) but few consider a range of insurance related questions that may better highlight disparities across social statuses. Among studies that examine one or two of these indicators, people from marginalized groups are less likely to have insurance and more likely to be denied coverage (Artiga, Garfield, and Orgera 2020). Health insurance is essential for positive health outcomes. One recent study found that not only does having health insurance improve one's health, but that insurance access also improves seeking care and health behaviors. Moreover, having health insurance more strongly predicts health for females, people with chronic diseases or illnesses, and those who have private insurance. To this end, it is important to highlight that health insurance does not always fully cover healthcare treatment. People with partial-year enrollment or a spell without insurance experience precipitous declines in mental and physical health, more emergency room visits, and longer hospital stays (Kattih 2022).

Third, we investigate healthcare disparities using data representative of thirty-two states that more holistically assess people's health insurance status and allow for improved generalizability. There is limited data on healthcare access and disparities for marginalized gender and sexuality groups. In fact, many healthcare physicians will not ask people for information on sexual orientation or gender identity, and many people do not feel comfortable disclosing, if not asked. This results in a lack of data, for instance, in major cancer registries, which hinder more research and discovery for LGBTQ health (Walker 2021). Thus, we contribute to the smaller area of LGBTQ related research on health insurance. In addition, the incorporation of an intersectional framework for healthcare access and coverage offers a novel way to understand how certain identities are perceived and treated by the healthcare system, which can open a new domain of causes of health outcomes. Healthcare coverage is an important social determinant of health. If someone does not have insurance, then they will find it difficult to access treatment, receive medical assistance, and receive a diagnosis in the early stages of an illness.

Background and Theory

Intersectionality

This study is informed by tenets of intersectionality, which purports that social systems are interlocking and mutually reinforcing such that to understand the effects of racism, one must also consider systems of sexism, heterosexism, and transphobia (Collins 2015; Collins and Bilge 2020; Crenshaw 1991). Intersectionality was first introduced through the historical treatment and perceptions of African American women. The development of the framework is informed by the centuries long Black freedom struggle and feminist movement, which reflected the enfranchisement of Black Americans and women, two marginalized groups in society. Yet, generally excluded from power in these movements were Black women. Moreover, deeper assessment of Black women's experiences came to find higher incarceration rates, low feelings of safety and protection, and higher mortality rates (Atewologun 2018; Cho, Crenshaw, and McCall 2013; Mandelbaum 2020). Thus, evaluation of these phenomena led to questions including the fit of Black women in the feminist movement, why so many lawsuits filed by Black women were overlooked and dealt with discomfort. Stemming from the inability for prior frameworks to highlight the multiplicity of identities that overlap to shape outcomes, Black women scholars coined intersectionality theory and affirmed that racism had an impact on Black women's displacement from the feminist movement, and sexism excluded Black women from power in the civil rights movement (Cho, Crenshaw, and McCall 2013; Mandelbaum 2020).

Intersectionality plays a significant role in promoting the consideration of gender, race, sexual orientations, and power imbalance in politics and academia (Atewologun 2018; Cho, Crenshaw, and McCall 2013). This is accomplished via three strategies: (1) the inclusion of multiple perspectives and identities of marginalized groups, (2) the interactions of inequality of intersectional identities in various levels, and (3) institutions' common practice of inequality to maintain societal and social standings (Mandelbaum 2020; Choo and Ferree 2010). Multi-marginalized groups face different levels of treatment from negative stigma, prejudice, and discriminatory actions. These various mistreatments and negative stereotypes create a divide in social standing and treatment under the intersectionality theory because their various marginalized standings significantly affect each other (Cho, Crenshaw, and McCall 2013; Mandelbaum 2020). Thus, a division and social normative level of treatment is developed through interaction and within societal institutions. It is important to note that while we focus on identifying characteristics including race, gender, and sexuality,

intersectionality theory also covers many other aspects of labeling in society, such as class, age, employment, and immigration status.

Scholars have highlighted and addressed shortcomings of intersectionality theory that are informative of the present study. For instance, there was a historical belief that the theory only highlights intersections of race and gender (Carbado 2013). However, as research has grown over time, ageism, homophobia, unemployment and immigration prejudice, and classism have also been incorporated successfully under the intersectionality umbrella (Atewologun 2018; Choo and Ferree 2010; De Jong and Madamba 2001; Ferraro and Farmer 1996). Other critiques assert an identitarian society, that lack of explanation for holistic development of identity formation, and the theory's fixation of individuals (Choo and Ferree 2010).

Intersectionality is an evaluation of multiple identities and the social construction of their place in society with varying perspectives. It does not merely view society and identity from marginalized lenses. In addition, identity formation is examined through micro, meso, and macro-levels, which involves individual, familial, institutional, and societal levels of theorizing. Identity formation in society is growing increasingly due to increased wealth gaps, increases in multiracial identities, range of gender identities, and growth of sexuality labels (Atewologun 2018; Cho, Crenshaw, and McCall 2013). Ultimately, intersectionality is vital to understanding new standings in society and developing more intervention to increase inclusion and belonging. Intersectionality provides a useful framework for the present study because people have multiple intersecting identities that factor into access to and coverage of health insurance (Mandelbaum 2020; Choo and Ferree 2010). Thus, use of this theory will improve upon limitations of empirical research, and innovate by evaluating societal and individualistic placements of marginalized groups.

Double Disadvantage Hypothesis

The double disadvantage hypothesis extends from intersectionality and predicts that people who possess multiple disadvantaged standings in society will struggle more in their health than people who possess merely one disadvantaged standing in society relative to their more privileged counterparts (Grollman 2014). The double disadvantage hypothesis acknowledges that discrimination and prejudice are prevalent in American society (De Jong and Madamba 2001; Ferraro and Farmer 1996; Grollman 2014). One study investigated the double disadvantage hypothesis among older white and Black folks. Thus, the study evaluated intersections of racism and ageism. Their findings suggested that Black adults were more likely to acquire chronic or serious illnesses and had a higher health decline in a fast period of time relative to white adults (Ferraro and Farmer 1996). However, the authors found that all ages of Black people declined in health at a faster rate than white folks. Therefore, the double disadvantage was rejected, and the study-initiated critiques of the hypothesis including attribution of discrimination and selective mortality (Duran and Pérez-Stable 2019).

One key study conducted by Grollman (2014) investigated whether there was an association between multiple disadvantaged statuses and health, and whether interpersonal discrimination contributed to the relationship. Their findings suggested that people who possessed multiple marginalized identities and backgrounds were more likely to have poor physical health, functional limitations, and depression in comparison to non-disadvantaged and single disadvantaged groups. In other words, the study supported the double disadvantage hypothesis and concluded that people with multiple marginalized identities face a double disadvantage in relation to health partially due to interpersonal discrimination. Most informative

from this study and others like it is that, according to the double disadvantage hypothesis, more marginalized groups will have poorer healthcare access, insurance, and greater denial of coverage.

Health insurance is a contributor to racial and socioeconomic health disparities as marginalized racial groups and impoverished populations experience worse health outcomes (Sommers et al. 2017). Given these persistent disparities, policies have focused on enhancing healthcare access. To this end, the U.S. government adopted the Affordable Care Act (ACA) to minimize the number of Americans without health insurance. While the ACA attempted to mitigate health and healthcare inequalities and reduce the financial burdens of medical care borne by poorer people (Dickman, Himmelstein, and Woolhandler 2017), it did not regulate the quality, affordability, or accessibility for certain marginalized groups (Sommers et al. 2017). Thus, a large swath of the population was left without quality healthcare coverage. In a study conducted by Sommers and colleagues (2017), lower income adults had worse health outcomes and worse quality of care relative to high-income adults. In fact, 10–25 percent of the disparity in treatment was due to health insurance coverage. Ethnoracial disparities were also prevalent. For instance, Blacks and Hispanics had a lower quality of care in comparison to whites, in which 16–70 percent was due to the type of health insurance one had (Dickman, Himmelstein, and Woolhandler 2017).

Poor people in America face significant health problems as they struggle with access to healthcare. The main reason for their struggle to receive healthcare is that poor Americans often do not have health insurance. Although healthcare coverage has expanded since 2010, it is not enough to provide poor people in America with healthcare coverage (Dickman, Himmelstein, and Woolhandler 2017). These socioeconomic inequities are exacerbated by race. African Americans who did not possess health insurance were more likely to gain insurance quicker than non-Hispanic whites. However, it is important to note that African Americans' likelihood of obtaining insurance faster is quantitatively insignificant given their significant rates of losing insurance via job loss or unemployment. Minority groups losing access to health insurance as they reach adulthood has become a significant social problem as it worsens health disparities, specifically for African American and Hispanic populations as they reach the age of their forties and fifties (Sohn 2017). In addition, Non-Hispanic African American patients were more likely diagnosed with late stage breast and prostate cancers than were non-Hispanic whites. Hispanic patients were more likely to be diagnosed with late-stage breast cancer but less likely to be diagnosed with late-stage prostate cancer (Roetzheim et al. 1999). African Americans and Hispanics were also more likely to be admitted with a diagnosis of chest pain and to be female, younger, and admitted emergently. African Americans and Hispanics were less likely to be admitted to hospitals performing large volumes of procedures (Carlisle, Leake, and Shapiro 1997). Thus, racism is affecting their chance of quality and equitable care.

People who identify as LGBTQ may have a higher risk of being diagnosed with cancer than their heterosexual, cis-gender counterparts. This is primarily due to discrimination and other social factors (Tamargo et al. 2017). According to the Center for American Progress (CAP) survey, over 1,500 adults self-identified as LGBTQ adults, and thirty-three percent of them revealed they have been discriminated against in the past year. In the CAP survey, fifteen percent of LGB people and 30 percent of transgender people reported postponing or avoiding medical treatment due to discrimination. This has resulted in the postponement and avoidance to seek treatment. In addition, the data for LGBTQ health is limited as none of the large national cancer registries or surveys collect data on sexual orientation or gender identity (Medina and Mahowald 2023). In addition, LGBTQ cancer survivors are invisible among the information

collected, which hinders research, prevention, treatment, and health equity. According to the National Health Interview Study, in comparison to heterosexual men, gay men had over fifty percent increased odds of reporting a cancer diagnosis (Medina and Mahowald 2023; Walker 2021).

In addition, in comparison to heterosexual women, bisexual women had seventy percent increased odds of reporting a cancer diagnosis (Medina and Mahowald 2023). In regard to cancer screening for the LGBTQ community, there are lower screening rates. In addition, gender identity plays a significant role as people may not identify with the organs they are born with such that a transgender man may not think about cervical cancer screening (Charlton et al. 2019). Similarly, a transgender woman may not think about prostate cancer screening. Another issue at play is that people may not disclose their gender identity or sexual orientation due to fear of discrimination or lack of being asked. There are multiple factors that lead to disparities in care, and one of the major factors at play is lack of insurance access. Thus, if people's sexual orientation or gender identity is preventing their access to health insurance, then there is a major contribution to health disparities and a decline in equitable health.

Health Insurance Plans

According to the CDC, eleven percent of people under the age of sixty-five are uninsured. The percentage of people who were under the age of sixty-five with private insurance is 63.2 percent while 27.7 percent of Americans have public insurance. People who have private insurance have struggled to financially keep it due to rising premiums and cost sharing have undermined wage gains (Dickman, Himmelstein, and Woolhandler 2017). Thus, this leads some households into debt or bankruptcy. As private health insurances develop, they show to have many potential risks and benefits in regard to healthcare access for the poor (Ahuja and De 2004). Furthermore, even the private health insurance market is struggling due to the lack of development as regulatory decisions on health services supply and the demand for health insurance. In contrast, health coverage is more accessible for wealthy individuals (Dickman, Himmelstein, and Woolhandler 2017). Community-based insurance is associated with better outcomes for poor people in America than government or market mediated insurance (Ahuja and De 2004).

Patients insured by Medicaid were more likely diagnosed at a later stage of breast cancer and melanoma. In addition, patients insured by Medicaid and patients who were uninsured were at greater risk for late-stage disease. African Americans, Asians, and Hispanics were more likely to have Medicaid or be uninsured. African Americans and Hispanics were less likely to be admitted to hospitals performing large volumes of procedures. Thus, Medicaid health insurance is more likely to be possessed by marginalized groups. White patients were significantly more likely to have Medicare or private health insurance, whereas African Americans, Asians, and Hispanics were more likely to not have health insurance or be Medicaid recipients (Carlisle, Leake, and Shapiro 1997).

Compared with those with private insurance, Medicaid coverage was associated with an increased likelihood of experiencing denials for hormone therapy. In addition, having no in-network surgery providers was associated with Medicare for transgender and non-binary patients. Military-based insurance was also associated with transition-related surgery denials (Bakko and Kattari 2020). This exhibits that people of the LGBTQ community who need the proper treatment and medication are unable to receive it due to denial of coverage. People who lack health insurance and who are insured by Medicaid are more likely to be diagnosed with late-stage cancer. Due to expansion, however, some research shows that patients with

Medicaid are able to access screening and get diagnosed with colorectal, lung, and breast cancer at earlier stages (Lam et al. 2020). Nonetheless, private insurance in comparison to Medicare or Medicaid allows greater access to healthcare due to coverage of annual health visits and access and affordability for treatment.

Methods

Data are extracted from the 2021 Behavioral Risk Factor Surveillance System (n=206,338), which is a nationally representative, telephone-based, random dial survey of noninstitutionalized adults. It remains the world's largest on-going telephone health survey and tracks health conditions and risk behaviors among adults across the U.S. Respondents in Alaska, Arkansas, Connecticut, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nevada, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, Texas, Utah, Vermont, Virginia, Washington, West Virginia, and Wisconsin were asked about their Sexual Orientation and Gender Identity (SOGI). More information on the sampling design is available from the CDC webpage: <https://www.cdc.gov/brfss/index.html>. All statistics reported in this study are corrected for the BRFSS's sampling design.

Dependent Variables

Insurance status. Respondents were asked whether they have any health insurance regardless of its source. Answers in the affirmative were coded yes=1.

Type of Insurance. Type of insurance indicates whether respondents have (1) employer-based insurance, (2) private, (3) public, or (4) none. Employer based insurance indicates that a person has a plan purchased through their employer or union including plans purchased through another person's employer. Private insurance indicates a nongovernmental plan that a person or another family member buys on one's own. Public insurance reflects coverage via Medicare, Medigap, Medicaid, Children's Health Insurance Program, Military-Related Healthcare, Indian Health Service, State Sponsored health plan, or another governmental program. No insurance means that a person has no access to insurance.

Denial of Coverage. We code denial of coverage based on a question that asked: "Were you ever denied health insurance or life insurance coverage because of your cancer" (yes=1)?

Independent Variables

Race-ethnicity. Race-ethnicity is broken into three mutually exclusive categories including white, Black, or Hispanic. Whites serve as the reference group in multivariable analyses.

Gender Identity. Despite the large sample size provided by the BRFSS, small cell sizes necessitated the creation of just three groups: cismen, ciswomen, and self-identified transgender or gender nonconforming respondents.

Sexual Orientation. Similar to gender identity, small cell sizes lead to creating two categories: straight or not straight, which for the sake of concision, we refer to as sexual minorities.

Intersectional Statuses. From the three race-ethnicity, gender identity, and sexual orientation measures, we create eighteen mutually exclusive categories reflecting intersections of these important identifications. For the purposes of multivariable models, white, cis, straight men serve as the reference group.

Control measures. We control for important measures that may explain the association between identity characteristics and health insurance access. These measures include age, educational attainment, employment status, whether a person owns or rents their dwelling, marital status, and parenthood status. Age is included as a measure of years since birth and ranges from eighteen to eighty. While some respondents are older than eighty, the BRFSS protects the anonymity of respondents by capping age at eighty. Education ranges from one to six where six is equal to having a four-year degree or higher. Owning one's home is a dichotomous measure (yes=1). Marital status is broken into five options, which includes married, divorced/separated, widowed, never married, or cohabiting. Finally, parenthood status reflects whether respondents have children under the age of eighteen that live in the household (yes=1).

Analytic Strategy

We begin analyses by estimating descriptive statistics for all study variables in the 2021 Behavioral Risk Factor Surveillance System (BRFSS). The primary analyses utilize generalized models that correct for the BRFSS's complex sampling design. The first two models estimate health insurance status utilizing binary logistic regressions. The first model focuses on disparities between race-ethnicity, gender, and sexuality groups without examining their interaction, and the second model highlights the intersection of these social statuses. Models 3 and 4 estimate type of insurance with multinomial logistic regressions. Similar to the first two models, these models first identify associations with race-ethnicity, gender, and sexuality in isolation before combining these statuses in Model 4. To examine the association between status characteristics and denial of health or life insurance due to having cancer we ran binary logistic models. The sample size is greatly reduced for these models since they concentrate on only those that have ever had cancer. Thus, status categories are excluded in cases where estimates would produce instability in the model.

Results

The primary analysis for the present study relies on a sample size of 206,338 respondents. Table 1 presents descriptive statistics for study variables. A vast majority of respondents, 91.24 percent, have insurance. Of the respondents that have insurance, forty-three percent have employer-based insurance, nine percent have private insurance, thirty-eight percent have public insurance, and approximately nine percent are uninsured. Respondents that experienced denial of coverage due to their cancer diagnosis is 5.5 percent. The gender-identity composition of the sample is forty-seven percent cismen, fifty-two percent ciswomen, and 0.8 percent transgender/gender nonconforming. The sexual orientation composition of the sample size is ninety-two percent straight and eight percent sexual minority. The racial groups in the sample stand as seventy-three percent white, twelve percent Black, and fourteen percent Hispanic. It is notable that white, cismen, straight people are thirty-three percent of the respondents and white, ciswomen, straight people are thirty-four percent, which are the two highest intersectional groups in this sample. The two lowest are Black, trans, straight, .02 percent, and, Black, trans, not straight, .03 percent.

Table 1. Descriptive Statistics for Study Variables in the Behavioral Risk Factor Surveillance System, 2021.

	Full Sample	
	Mean/%	SD
Dependent Variables		
Insurance Status (yes=1)		
Has health insurance	91.24%	—
Type of Insurance (yes=1)		
Employer-based insurance	43.70%	—
Private insurance	9.06%	—
Public insurance	38.47%	—
No insurance	8.76%	—
Denial of Coverage because of Cancer		
Denied insurance (yes=1)	5.46%	—
Race-Gender-Sexuality (yes=1)		
Cismen	47.38%	—
Ciswomen	51.85%	—
Transgender/Gender nonconforming	.76%	—
Straight	91.64%	—
Sexual Minority	8.36%	—
White	73.26%	—
Black	12.48%	—
Hispanic	14.27%	—
Intersectional Statuses (yes=1)		
White, cismen, straight	32.96%	—
White, cismen, not straight	1.95%	—
White, ciswomen, straight	34.60%	—
White, ciswomen, not straight	3.18%	—
White, trans, straight	0.25%	—
White, trans, not straight	0.32%	—
Black, cismen, straight	5.26%	—
Black, cismen, not straight	0.32%	—
Black, ciswomen, straight	6.28%	—
Black, ciswomen, not straight	0.56%	—
Black, trans, straight	0.02%	—
Black, trans, not straight	0.03%	—
Hispanic, cismen, straight	6.21%	—
Hispanic, cismen, not straight	0.70%	—
Hispanic, ciswomen, straight	6.01%	—
Hispanic, ciswomen, not straight	1.21%	—
Hispanic, trans, straight	0.05%	—
Hispanic, trans, not straight	0.10%	—
Covariates		
Age (in years; range 18–80)	49.69	(17.88)
Education (range 1–6, 6=BA+)	4.75	(1.07)
Employed (yes=1)	57.56%	—
Owns Home (yes=1)	72.62%	—
Married (yes=1)	53.17%	—
Divorced/separated (yes=1)	13.25%	—
Widowed (yes=1)	7.44%	—
Never married (yes=1)	21.23%	—
Unmarried Couple (yes=1)	4.90%	—
Parent (yes=1)	33.52%	—
Sample Size	206,338	

Note: Analyses are corrected for the sampling design. Means, percentages, and standard deviations (SD) presented.

Table 2 shows generalized models of health insurance status and type regressed on social status characteristics. Model 1 estimates health insurance status. Results show that ciswomen (*Odds Ratios* [*OR*]=1.28, *SE*=.06; *p*<.001) and transgender/gender non-conforming adults (*OR*=1.69, *SE*=.36; *p*<.05) are more likely to be insured relative to their cismen counterparts. It is important to note that there was a small sample size for transgender/nonconforming adults in this survey which brings a larger room for error. The probability for straight adults to have insurance is lower for sexual minorities than straight adults (*OR*=.89, *SE*=.06; *p*<.01). Thus, lesbian, gay, and bisexual adults are less likely to be insured in comparison to straight adults. Model 1 also shows that Black and Hispanic adults are less likely to have insurance in comparison to white adults. Specifically, Hispanic adults have lower odds by a factor of .28 (*SE*=.01; *p*<.001) than whites to have insurance while Black adults have lower odds by a factor of .77 compared to whites (*SE*=.05; *p*<.001).

Figure 1 (below, page 47) is estimated from Model 1 in Table 2 (below). To begin, Hispanic adults are glaringly less likely to have insurance in comparison to white and Black adults. Hispanic adults have an eighty-six percent chance of having insurance, while white adults have a probability of ninety-four percent to have insurance and Black adults have a ninety-three percent probability of having insurance. The predicted probability for cismen and ciswomen to have insurance is ninety percent and ninety-two percent, while the probability for transgender/nonconforming is predicted to be 91.5 percent. The probability for straight adults to have insurance is ninety percent and for sexual minorities it is ninety-two percent. Thus, straight adults are also less likely to be insured in comparison to sexual minorities and transgender/nonconforming adults.

Model 2 shows the association between intersectional statuses and insurance coverage. When looking at the intersectional identities, white straight cis women have twenty-nine percent higher odds of having insurance relative to white cismen who are straight (*OR*=1.29, *SE*=.07; *p*<.001). Black cismen who are straight have lower odds of health insurance by a factor of .60 (*SE*=.05; *p*<.001). By contrast, Black ciswomen who are straight are more likely than white cismen who are straight to have insurance (*OR*=1.29, *SE*=.14; *p*<.01). Hispanic men and women, regardless of sexuality, are less likely to have insurance access than cis, straight, white men. Figure 2 is estimated from Model 2 in Table 2. White trans straight women have 94.75 percent chance of having insurance and white, trans, sexual minorities have eighty-nine percent of having insurance. Mirroring coefficients presented in Table 2, Figure 2 shows that Hispanic straight cismen are much less likely to have insurance than white men. The predicted probabilities for Hispanic cismen (probability=.76) and women (probability=.80) who are gay, lesbian, or bisexual are some of the lowest across all intersections.

Models 3 and 4 estimate the type of health insurance that one has. The multinomial models utilize no insurance as the reference group. Model 3 shows that ciswomen are more likely to have employer (*OR*=1.29, *SE*=.06; *p*<.001), private (*OR*=1.24, *SE*=.07; *p*<.001), and public insurance (*OR*=1.29, *SE*=.06; *p*<.001) than cismen. Trans adults are significantly more likely to have private (*OR*=1.75, *SE*=.50; *p*<.05) or public insurance (*OR*=2.07, *SE*=.49; *p*<.01) than cismen. Sexual minorities are less likely than straight adults to have employer-based (*OR*=.75, *SE*=.05; *p*<.001) or private insurance (*OR*=.83, *SE*=.07; *p*<.05). Consistent with Model 1, Model 3 identifies Black and Hispanic adults as less likely to have any type of insurance relative to white adults.

Table 2. Generalized Models of Health Insurance Status and Type Regressed on Social Status Characteristics in the Behavioral Risk Factor Surveillance System, 2021 (n=206,338).

Variables	Health Insurance ^a		Type of Insurance ^b			Type of Insurance ^b		
	Model 1	Model 2	Model 3			Model 4		
	Any Insurance	Any Insurance	Employer-based	Private Insurance	Public Insurance	Employer-based	Private Insurance	Public Insurance
Race-Gender-Sexuality								
Ciswomen (ref=cismen)	1.28*** (.06)	—	1.29*** (.06)	1.24*** (.07)	1.29*** (.06)	—	—	—
Transgender/non-Conforming (ref=cismen)	1.69* (.36)	—	1.25 (.28)	1.75* (.50)	2.07** (.49)	—	—	—
Sexual minority (ref=straight)	.89** (.06)	—	.75*** (.05)	.83* (.07)	.88 (.07)	—	—	—
Black (ref=white)	.77*** (.05)	—	.69*** (.05)	.69*** (.06)	.88 (.06)	—	—	—
Hispanic (ref=white)	.28*** (.01)	—	.25*** (.01)	.29*** (.02)	.32*** (.02)	—	—	—
Intersectional Statuses (yes=1)								
White, cismen, not straight	—	.82 (.10)	—	—	—	.80 (.10)	.92 (.13)	.78* (.10)
White, ciswomen, straight	—	1.29*** (.07)	—	—	—	1.38*** (.08)	1.30*** (.09)	1.29*** (.07)
White, ciswomen, not straight	—	1.16 (.13)	—	—	—	1.07 (.13)	1.15 (.16)	1.33* (.16)
White, trans, straight	—	1.50 (.50)	—	—	—	1.32 (.48)	1.31 (.51)	1.89 (.63)
White, trans, not straight	—	.98 (.27)	—	—	—	.67 (.19)	1.32 (.53)	1.32 (.42)
Black, cismen, straight	—	.60*** (.05)	—	—	—	.57*** (.06)	.56*** (.07)	.68*** (.06)
Black, cismen, not straight	—	.79 (.23)	—	—	—	.83 (.26)	.67 (.25)	.84 (.26)
Black, ciswomen, straight	—	1.29* (.14)	—	—	—	1.20 (.13)	1.16 (.15)	1.47*** (.16)
Black, ciswomen, not straight	—	1.17 (.27)	—	—	—	.76 (.20)	.99 (.32)	1.85* (.45)
Black, trans, straight	—	.54 (.49)	—	—	—	.27 (.27)	.34 (.40)	.93 (1.01)
Black, trans, not straight	—	.57 (.36)	—	—	—	.12** (.09)	.59 (.44)	1.30 (.87)
Hispanic, cismen, straight	—	.32*** (.02)	—	—	—	.30*** (.02)	.34*** (.04)	.35*** (.03)
Hispanic, cismen, not straight	—	.23*** (.04)	—	—	—	.25*** (.05)	.23*** (.07)	.22*** (.05)
Hispanic, ciswomen, straight	—	.32*** (.02)	—	—	—	.27*** (.02)	.33*** (.04)	.39*** (.03)
Hispanic, ciswomen, not straight	—	.25*** (.04)	—	—	—	.20*** (.03)	.22*** (.05)	.31*** (.05)
Hispanic, trans, straight	—	.58 (.31)	—	—	—	.67 (.40)	.47 (.48)	.62 (.35)
Hispanic, trans, not straight	—	.96 (.59)	—	—	—	.64 (.44)	.81 (.71)	1.17 (.90)
AIC	70988.401	70976.704	334517.156			334389.531		
Pseudo R ²	.194	.194	.256			.256		

Note: Analyses are corrected for the sampling design. Standard errors in parentheses. Models control for education, age, marital status, home ownership, employment status, and parenthood status. The comparison group is those without insurance.

^a Binary logistic models. ^b Multinomial logistic models.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

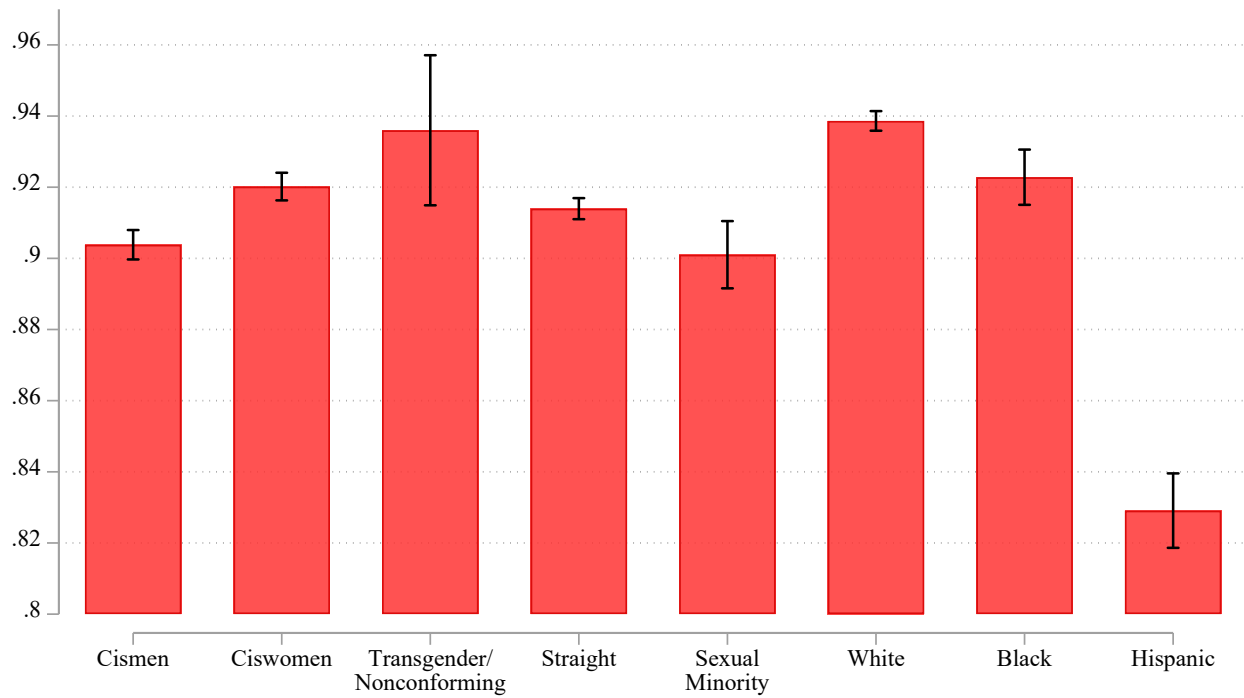
Figure 3 derives from Model 3 in Table 2. When looking at the predicted insurance type of each one-dimensional identity, transgender/nonconforming adults are more likely to have public insurance. The predicted probability for transgender/nonconforming adults to have private insurance is thirteen percent, to have employer based is forty-two percent, to have no insurance is eight percent, and to have public is thirty-eight percent. For cismen and ciswomen, they are more likely to have employer based or public insurance. Cismen are predicted to have forty-three percent probability of having employer-based insurance, eight percent probability to have private insurance, thirty-nine percent probability to have public insurance, and nine percent to have no insurance. Ciswomen are predicted to have the probability of forty-six percent to have employer-based insurance, nine percent to have private insurance, thirty-seven percent to have public insurance, and seven percent probability of having no insurance. Sexual minorities are slightly more likely to have public insurance than straight adults. Sexual minority adults are predicted to have a thirty-nine percent probability to have private insurance, while straight adults have a predicted probability thirty-seven percent to have private insurance. In addition, sexual minority adults are less likely to not have insurance than straight adults. White folks are more likely to have employer-based insurance (45%) than Black adults (42%) and Hispanic adults (42%). Throughout the one-dimensional identities, the two most common insurance types are employer-based and public.

Model 4 in Table 2 reports the association between intersectional identities and insurance type. White, cismen who are sexual minorities are less likely to have public insurance by a factor of .78 ($SE=.10$; $p<.05$). Contrarily, white, straight, ciswomen are more likely to have all types of insurance that we examine here. Additionally, Black, cismen, who are straight are less likely to have any of the three forms of insurance. Similar patterns appear for Hispanic cismen and ciswomen who are statistically less likely to have insurance.

We estimated but do not show probabilities of insurance type by intersection. With the exception of Black, trans, sexual minority adults, every intersectional identity has a higher probability of having employer-based insurance. Trans adults are more likely to have public insurance if they are ethnoracially marginalized. White cis straight men are more likely to have employer-based, forty-two percent, or public insurance, thirty-nine percent, than private, 8.5 percent or no insurance, 5.5 percent. White cis sexual minority men are more likely to have employer-based insurance and public insurance than private insurance. White cis straight women are also more likely to have employer-based insurance and public insurance than private insurance. White trans straight adults are more likely to have public insurance than private insurance. White, trans, sexual minority adults are more likely to have private or no insurance than public.

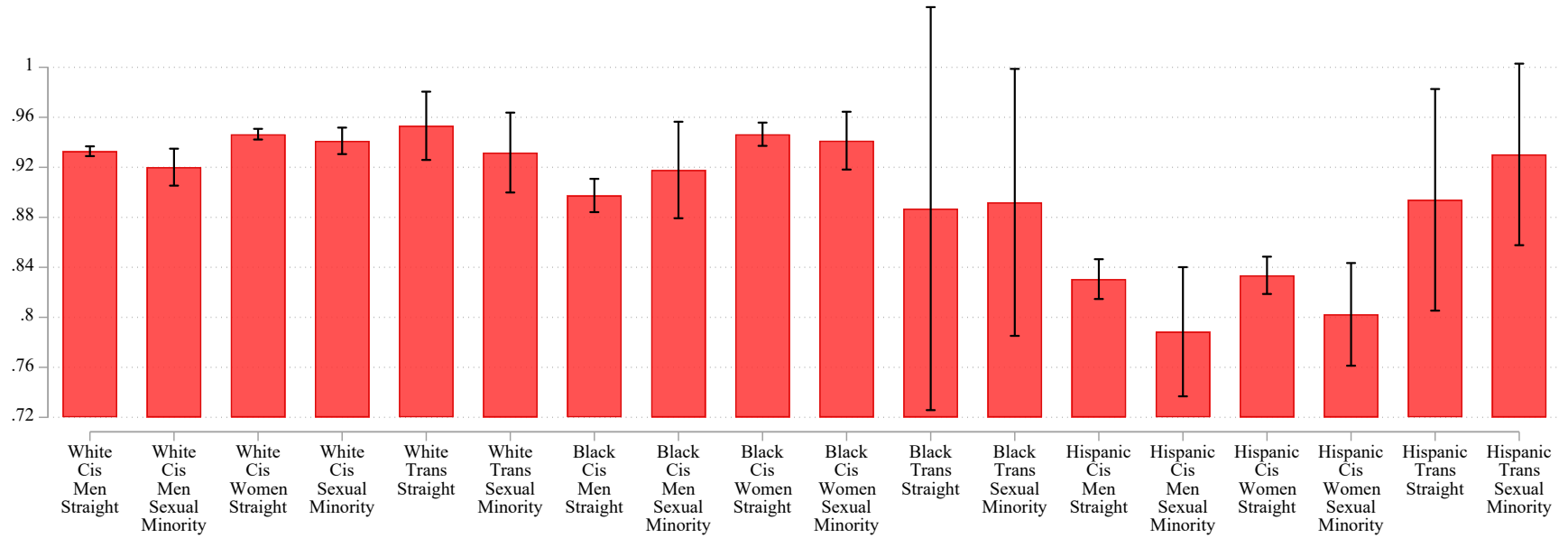
Black straight cismen are more likely to have public insurance, thirty-nine percent, or employer-based insurance, forty-four percent, than private insurance, eight percent. Black cis sexual minority men are more likely to have public insurance, forty-one percent, than no insurance, eight percent, and private insurance, eight percent. Black cis straight women are more likely to have private insurance, 0.07, than no insurance, five percent. In addition, they are slightly more likely to have employer-based insurance, forty-five percent, than public insurance, forty percent.

Figure 1: Predicted Probability of Having Insurance for U.S. Adults in the Behavioral Risk Factor Surveillance System, 2021.



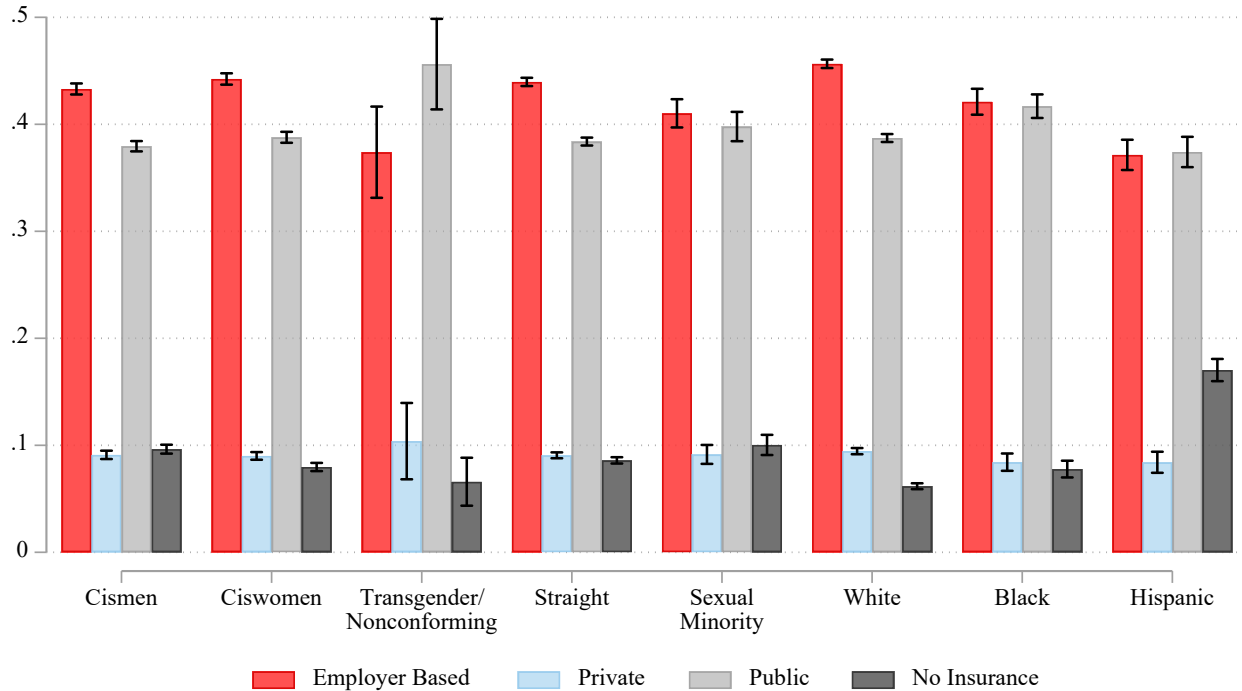
Note: Estimates derive from models that control for education, age, marital status, home ownership, employment status, and parenthood status.

Figure 2: Predicted Probability of Having Insurance for U.S. Adults across Intersectional Statuses in the Behavioral Risk Factor Surveillance System, 2021.



Note: Estimates derive from models that control for education, age, marital status, home ownership, employment status, and parenthood status.

Figure 3: Predicted Probability of Insurance Type for U.S. Adults in the Behavioral Risk Factor Surveillance System, 2021.



Note: Estimates derive from models that control for education, age, marital status, home ownership, employment status, and parenthood status.

Black cis sexual minority women are more likely to have employed based insurance and public insurance than no insurance and private insurance. Black trans straight adults are more likely to have private insurance than no insurance. Black, trans, sexual minority adults are more likely to have public or private insurance. They are also more likely to have public insurance, fifty-one percent, relative to every intersectional identity. Black trans straight adults are also least likely to have no insurance, two percent, and least likely to have employer-based insurance, fourteen percent. This is vastly different from the variation and distribution of type of insurance for every other intersectional identity.

Moreover, Hispanic cis straight men are the most likely of any intersectional identity to not have any insurance at all as they have an 18.5 percent chance of not having healthcare insurance. They are also slightly more likely to have public insurance, twenty-seven percent, than private insurance, 9.5 percent. Hispanic cis sexual minority men are more likely to have no insurance, twelve percent, or public insurance, twenty-nine percent, than private insurance, 8.5 percent. Hispanic cis straight women are more likely to have no insurance, seventeen percent, than have private insurance, nine percent. In addition, they are more likely to have employer based, forty percent, and public insurance, thirty-five percent. Hispanic cis sexual minority women are more likely to have public insurance, thirty-nine percent, than private insurance, one percent and no insurance, ten percent. Hispanic trans straight adults are more likely to have no insurance, thirteen percent, and public insurance, thirty-eight percent, than private insurance, eight percent. Hispanic, trans, sexual minority adults are least likely to have private insurance relative to every intersectional identity studied. Hispanic, trans, sexual minority adults are more likely to have employer-based insurance, forty-eight percent, or public insurance, forty-two percent.

Table 3 reports results from examining whether status characteristics are associated with denial of insurance based on one's cancer diagnosis. First, Model 1 shows that Black adults have higher odds of being denied insurance than whites by a factor of 5.33 ($SE=3.19$; $p<.01$). In other words, there is a large racial disparity in cancer coverage. Second, Model 2 adds more information to findings in Model 1 such that the group analyzed here with the greatest disadvantage are Black, cis, straight women ($OR=11.22$, $SE=7.81$; $p<.01$). These patterns are concerning considering that Black adults are less likely to be insured than whites, and are more likely to have their cancer diagnosed in a more progressed state.

Discussion

The present study examined the association between intersectional statuses and access to health insurance. Hispanic adults overall appear to have the lowest probability of obtaining health insurance among all the intersectional characteristics. One explanation for these patterns is the prevalence of stigma in hospital environments. Hispanics were found to receive the highest amount of perceived stigma in healthcare environments (De, Pozen, and Budhwani 2019). Stigma towards racial groups is correlated with reduced access to healthcare, delays in treatment, and poor health outcomes. Other possible reasoning is that the data do not include information on nativity or immigration status. Within immigration, there may be a language barrier and limited access to quality job opportunities. Without employment, it is difficult to obtain insurance, and being undocumented makes obtaining public insurance more challenging not because it is legal to discriminate against undocumented people, but because people have little reason to trust in healthcare professionals to protect that information. Due to a low probability of obtaining health insurance, Hispanics' access to care is significantly reduced compared to others (Kronenfeld et al. 2021). Moreover, when research on clinical trials or experimental therapies are conducted, there is often little to no inclusion of Hispanics. This barrier blocks equitable care and health.

Sexual minorities and trans adults who are Hispanic appear to have a slightly higher probability of having insurance. Under the lens of intersectionality, this shows that being Hispanic and a sexual minority does bring disadvantage compared to other racial groups and their intersections. However, in regard to the other findings that sexual minorities and trans adults who are Hispanic appear to have a slightly higher probability of having insurance operate against intersectionality theory. As in the study, black trans men are the most likely to have insurance that any other intersectional identity. In addition, it does appear that for each racial group, straight men with each intersection of race and sexual orientation are less likely to be insured. Thus, this also works against the double disadvantage hypothesis that states that if one is disadvantaged in one part of their identity, having another disadvantage in another sector of their identity will place them lower on the social status hierarchy that determines access to resources and exposure to risk. Findings that white cis straight men are least likely to have insurance goes against the double disadvantage hypothesis. In addition, Black, trans, and sexual minority adults are more likely to have insurance than any other group, which counters some expectations of the double disadvantage hypothesis.

Table 3. Generalized Models of Denial of Health or Life Insurance on Social Status Characteristics in the Behavioral Risk Factor Surveillance System, 2021 (n=3,394).

<i>Variables</i>	Denial of Health or Life Insurance ^a	
	<i>Model 1</i>	<i>Model 2</i>
<i>Race-Gender-Sexuality</i>		
Ciswomen (<i>ref</i>=cismen)	1.29 (.33)	—
Transgender/non-Conforming (<i>ref</i>=cismen)	—	—
Sexual minority (<i>ref</i>=straight)	2.17 (1.13)	—
Black (<i>ref</i>=white)	5.33** (3.19)	—
Hispanic (<i>ref</i>=white)	2.19 (1.09)	—
<i>Intersectional Statuses (yes=1)</i>		
White, cismen, not straight	—	2.91 (1.91)
White, ciswomen, straight	—	1.42 (.39)
White, ciswomen, not straight	—	1.68 (1.20)
White, trans, straight	—	—
White, trans, not straight	—	—
Black, cismen, straight	—	3.06 (3.28)
Black, cismen, not straight	—	—
Black, ciswomen, straight	—	11.22** (7.81)
Black, ciswomen, not straight	—	—
Black, trans, straight	—	—
Black, trans, not straight	—	—
Hispanic, cismen, straight	—	1.61 (1.43)
Hispanic, cismen, not straight	—	—
Hispanic, ciswomen, straight	—	2.16 (1.36)
Hispanic, ciswomen, not straight	—	2.60 (3.48)
Hispanic, trans, straight	—	—
Hispanic, trans, not straight	—	—

Note: Analyses are corrected for the sampling design. Standard errors in parentheses. Models control for education, age, marital status, home ownership, employment status, and parenthood status.

^a Binary logistic model.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

Sexual minority adults are less likely to not have insurance than straight adults. This brings the question if sexual minorities and transgender/nonconforming adults have more of an incentive to obtain insurance. This could bring a new question of is it about access or need? Thus, it may be more difficult to obtain insurance, but there may be more of a necessity to have insurance, which is why sexual minorities are more likely to have insurance than straight adults. One other control that could have been useful in this study is to see what respondents have underlying conditions to filter through need-based insurance. This narrowing in on which respondents had no choice but to obtain health insurance opposed to others who do not necessarily have the same urgency. In addition, it is important to note that cis men may be more reluctant to seek out healthcare due to the stigma or perceived weakness associated with receiving medical care (Kutner et al. 2021). Going further, men who are not comfortable with their sexuality are even more discouraged to seek proper healthcare due to prejudice and stigma.

It is imperative to note and understand the difference between public and private insurance and understand the different types of care and coverage that come along with it. Sexual minorities of any intersection appear most likely to have public insurance rather than private. Private insurance statistically will cover more procedures and treatments and is less likely to deny coverage relative to public insurance. As discussed previously, public insurance is more obtainable for low-income people, but there are less occurrences of full coverage, and many instances of denial of coverage. Thus, when intersectional identities are more likely to have public than other groups, it is significant to grasp that the access to care differs greatly with groups who are more likely to have private or employer-based insurance.

White adults regardless of their gender identity and sexual orientation are more likely to be insured than Black and Hispanic adults with their intersections included. This can be explained by having more healthcare access. For example, lack of fear of discrimination, shapes access to health and healthcare. The racial gap is still very prominent, which is continuing to cause disparities in healthcare. Thus, access to insurance and diagnosis and treatment coverage lead to positive health outcomes and quality care. In addition, with access to health comes greater representation in research, such as clinical trials, mental health analysis, and behavioral health. Thus, as medicine innovates, healthcare towards white people progresses with it. Meanwhile marginalized racial, sexual orientation, and gender identity health research is growing slowly or remaining stagnant.

People are treated differently on their type of insurance despite having access to insurance. LGBTQ folks with insurance still face serious prejudice and discrimination with public insurance. When their insurance will not fully cover their gender-affirming hormones, trans and non-conforming people may seek out non-prescribed hormonal therapies, which are not only potentially dangerous, but can contribute to poorer physical and mental health if not used correctly (Hughes et al. 2022). Another occurrence is that healthcare professionals will adjust treatments and care due to insurance status or type. Patients with no insurance or an insurance type that is unable to fully cover their treatment have experienced negative instances with healthcare workers that they report as poor (Okoro, Hillman, and Cernasev 2020). This exhibits that when people access care or have the ability to partially access healthcare, there are still substantial barriers to receiving quality healthcare due to their type of insurance. Healthcare workers are the frontline of health, thus, when stigma is created from insurance status, that barrier will produce negative outcomes and poor health.

Conclusion

The present study identified innumerable disparities in access to health insurance across race-ethnicity, gender identity, and sexuality. Trans adults are more likely to have public insurance than private insurance, and public insurance does not fully cover all procedures and treatment. Moreover, public insurance may not meet the needs of many transgender adults that wish to have gender affirming treatment options. To this end, a new rating system of hospitals across the U.S., the health equity index, provide useful information for transgender people who are seeking care. This must grow as insurance specifically for adults who are transgender or gender non-conforming will create a new line for access to healthcare and provide the care that each person needs. In addition, more research must investigate why racial disparities in insurance persist and affect adult's access to healthcare. Gaps between white folks and Hispanics in this study are large. One implication of these findings is that policy should target ethnoracial equity within the healthcare system. Future research can build on the present study to identify whether location of residence and reproductive rights transitioning into governmental control shape insurance access, type, and denial of coverage. Ultimately, universal healthcare access is important to ameliorate health disparities.

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