

The Relationship Between Gender Identity, Transphobia, and Provider Trust Among Sexual and Gender Minority Individuals in Rural Appalachia

Mohammed Sheikh Eldin Jibriel, PhD, MS*

Rachel W. Faller, PhD, MPH

Amanda E. Tanner, PhD, MPH

Tamar Goldenberg, PhD, MPH

Jeanette M. Stafford, MS

Ana D. Sucalito, PhD, MPH

Lilli Mann-Jackson, MPH

Jorge Alonzo, JD

Manuel Garcia

John W. Chaffin

Lucero Refugio Aviles

David M. Kline, PhD

Laurie P. Russell

Tucker McGuire, MS

Peggy H. Weil

Antonio Del Toro

Aimee M. Wilkin, MD, MPH

& Scott D. Rhodes, PhD, MPH

Abstract

This analysis examines the relationship between gender identity, transphobia, and provider trust among diverse sexual and gender minority (SGM) individuals living in rural Appalachia, a region with profound health disparities. We analyzed baseline data from the *Appalachian Access Project*, collected between April and September 2022, from 141 participants using mixed model linear regression. Provider trust was significantly lower among nonbinary participants compared to participants who self-identified as cisgender men. Additionally, an interaction effect between transphobia and gender identity was observed, with higher transphobia associated with significantly lower provider trust among nonbinary individuals. Findings highlight the importance of addressing transphobia and promoting affirming and culturally responsive healthcare practices to improve health experiences and outcomes for SGM individuals. Further research should explore strategies to support the unique healthcare needs of SGM populations, with particular attention to the needs of nonbinary individuals.

Keywords: Gender identity; Healthcare access; Provider trust; Rural Appalachia; Transgender.

*Corresponding author may be reached at: +1 (610) 758-1804, moj225@lehigh.edu

Introduction

Stigma poses significant barriers to healthcare access, preventing stigmatized individuals, including sexual and gender minority (SGM) individuals, from seeking needed medical care and adopting healthy behaviors (Turan et al., 2019). Stigma also contributes to medical mistrust and disengagement from the healthcare system (Quinn et al., 2023). Fundamental cause theory posits that certain social conditions, such as stigma, are “fundamental causes” of disease because they persistently shape health inequities across contexts and time, even as specific diseases and risk factors change (Link & Phelan, 1995; Hatzenbuehler, Link, & Phelan, 2013). According to the theory, fundamental causes influence multiple disease outcomes through multiple pathways; involve access to flexible resources (e.g., knowledge, money, power, prestige, and social connections); and remain robustly associated with health disparities across time and place. Therefore, stigma functions as a fundamental cause of health by limiting access to these resources and continually generating new mechanisms that reproduce inequities (White Hughto et al., 2015).

Even when specific forms of stigma are addressed, such as policies preventing insurers from denying healthcare coverage based on gender identity, other barriers remain. These may include healthcare providers lacking cultural and medical competence to adequately care for SGM patients (White Hughto et al., 2015). Research also highlights HIV-related stigma, provider mistrust, and breakdowns in communication between SGM individuals and healthcare providers as barriers to accessing HIV prevention and care services (Arrington-Sanders et al., 2020; Lauckner et al., 2023). While existing research documents the barriers faced by SGM

individuals in healthcare, less is known about how gender identity and transphobia influence provider trust, particularly for SGM individuals in rural Appalachian communities.

Within the rural Appalachian region of the United States, unique healthcare access and engagement challenges exist for SGM individuals. Rural Appalachia experiences disproportionately high rates of HIV, sexually transmitted infections (STIs) and hepatitis C virus (HCV) compared to national averages, further compounding health inequities in the region (Moorman et al., 2018). Stigma related to sexual orientation and gender identity restricts access to prevention and care services across these conditions, creating intertwined public health crises that require urgent attention (Moorman et al., 2018). Further, recent data show the urgency of addressing health disparities among transgender (trans) and nonbinary populations in the U.S. South and Appalachia. In a study of lesbian, gay, bisexual, transgender, and queer (LGBTQ+) communities in Western North Carolina (a region within Appalachia), nearly one-third (29%) of respondents identified as transgender and 35% as nonbinary (Mulligan et al., 2023). Over 70% rated their physical or mental health as only “fair” or “poor,” and 59% reported suicidal ideation in the past year. Furthermore, 40% reported avoiding healthcare due to fear of mistreatment (Mulligan et al., 2023).

These findings illustrate persistent structural and stigma-related barriers in rural Southern communities where few local protections exist. These disparities occur within a broader political context of escalating anti-transgender legislation across the United States, particularly in the South. Since 2020, more than half of states have enacted laws targeting transgender youth, including bans on gender-affirming care, participation in sports, and inclusive school

curricula (Movement Advancement Project, 2025). The South, home to nearly 40% of the nation's transgender youth, has the lowest overall policy scores for gender identity protections (Movement Advancement Project, 2025). Such hostile policy environments amplify transphobia, provider mistrust, and existing barriers to equitable healthcare access. This stigma can profoundly impact provider trust and health communication (Behringer & Friedell, 2006). This is at least partially due to the lack of opportunities for LGBTQ+ training among healthcare personnel (Reeves et al., 2024). The absence of effective training can result in a limited understanding of the unique health needs and priorities of SGM individuals, specifically those who identify as transgender and nonbinary, increase likelihood of negative interactions characterized by providers misgendering patients, and inadvertent homophobic and transphobic actions from healthcare providers (Poteat et al., 2013).

Negative healthcare experiences are associated with a diminished quality of life and elevated rates of self-reported disability among transgender and nonbinary patients (Beckwith et al., 2017; Kattari et al., 2020). Positive healthcare experiences for SGM persons are characterized by provider training in LGBTQ+ health issues, use of inclusive language, and a welcoming environment where patients feel comfortable disclosing their gender identities (Baldwin et al., 2018; Kattari et al., 2020; Lefkowitz & Mannell, 2017). One promising framework for addressing inequities is cultural safety in medical practice, which emphasizes recognizing power dynamics, addressing marginalization, and centering the lived experiences of patients (Baldwin et al., 2018; Kellett & Fitton, 2017). Introducing cultural safety into healthcare delivery can lead to improved healthcare experiences, particularly for transgender and nonbinary

individuals whose needs are often overlooked in binary-oriented healthcare systems (Kellett & Fitton, 2017). Further, providing culturally responsive and affirming care for SGM patients can foster trust and contribute to tangible improvements in the overall health outcomes within SGM populations (Baldwin et al., 2018).

While research focused on supporting SGM individuals is expanding, particularly within urban settings in the United States, there are still communities that require further understanding. Consequently, it is crucial to gain a better understanding of the specific barriers to healthcare faced by SGM individuals in rural Appalachia. The distinct sociocultural and geographical context of rural Appalachia may present different obstacles for SGM populations and necessitate tailored approaches to address them effectively. This analysis quantitatively examines the relationship between gender identity, transphobia, and provider trust among SGM individuals in rural Appalachia. By examining these relationships, the analysis seeks to shed light on the role of gender identity and transphobia on healthcare experiences and outcomes in rural Appalachia and identify potential intervention leverage points that can promote health equity among SGM individuals living in Appalachia, a highly vulnerable and underserved region of the United States.

Methods

Sample. We analyzed baseline data from the *Appalachian Access Project*, a social network-based, social media intervention aimed at improving the utilization of HIV, STIs, and HCV prevention and care services for SGM persons ages 16 years or older living in rural Appalachia, specifically in counties located in North Carolina, Tennessee, and Virginia. The *Appalachian Access Project* also focuses on supporting access to medically supervised

gender-affirming hormone therapy for individuals seeking such care. After participants (N = 141) provided informed consent, interviewer-administered structured interviews were conducted between April and September 2022. Further, our social network-based recruitment strategy facilitated trust and access to SGM individuals who may not engage with formal services or public recruitment channels. However, because recruitment occurred through existing social ties, individuals who are more isolated or disconnected from these networks may have been excluded. Despite this limitation, this approach is recognized as one of the most effective strategies to reach stigmatized and hidden populations in rural Appalachia.

Ethics Statement. Human subject oversight was provided by Wake Forest University School of Medicine Institutional Review Board, and the study is registered with ClinicalTrials.gov (NCT04378439). Additionally, research was completed in accordance with the Declaration of Helsinki, as revised in 2013.

Measures. *Transphobia* was measured using items modified from the Transgender Identity Survey (TIS) (Bockting et al., 2020) and the Reactions to Homosexuality Scale, specifically from the social comfort and moral acceptability subscales (Ross & Rosser, 1996; Smolenski et al., 2010). We originally modified the measures using a CBPR approach in partnership with the Centers for Disease Control and Prevention to address the length and participant burden. The adapted version was then tested and subsequently used in previous studies (Rhodes et al., 2024, 2025). In this study we used the items to measure general attitudes

toward transgender identity across cisgender, transgender, and nonbinary participants. To achieve this, items were reworded so that anyone (not only those who identified as transgender) could respond. For example, the original item “*Being transgender makes me feel special*” was modified to “*Being transgender is special and unique.*” *Provider trust* was measured using the 5-item Patient Trust in the Medical Profession Scale which asks participants about general trust in medical providers (Dugan et al., 2005). Both scales used a five-point Likert scale (strongly disagree (1)-strongly agree (5)). Scores were summed, and a mean score was calculated such that higher scores (e.g., 5) indicate a higher level of transphobia and higher level of provider trust.

Demographics included age in years, race/ethnicity (i.e., non-Hispanic White, non-Hispanic Black, Hispanic/Latine¹, American Indian/Alaskan Native/Asian/Native Hawaiian/Pacific Islander/other, multi-racial/multi-ethnic); gender identity (i.e., cis man, cis woman, trans man, trans woman, and nonbinary); and education level (i.e., high school or less, some college or two-year degree, four-year degree, or more).

Analysis. Sample characteristics were described using counts and percentages or means with standard deviations. Mixed model linear regression that included a random intercept to adjust for potential within-social network correlation was used to assess the association between gender identity and provider trust adjusting for demographic characteristics. The adjustment for potential within-social network correlation accounted for the possibility that participants in the same social network may exhibit more similar responses than

¹ Note: the term “Latine” uses a gender-neutral “e”, which replaces the gendered endings “a” and “o” as in “Latina” and “Latino” and is similar to “Latinx” but is

pronounceable when pluralized. This term is increasingly used within Latine communities.

participant in other social networks. Models 1 and 2 evaluate gender identity and transphobia in separate models. Model 1 included the independent variable only (i.e. unadjusted). Model 2 for each independent variable added adjustments for demographic characteristics. Model 3 included both gender identity and transphobia together, with all adjustments from model 2, in addition to a gender identity by transphobia interaction term. Estimates to describe the interaction effect were evaluated using the interaction and main effect estimates from model 3. Due to the multiple comparisons for the interaction term, a Bonferroni correction was applied to the significance level to control the overall type I error rate, resulting in a critical p -value of 0.005 for the individual interaction estimates. All analyses were conducted using SAS version 9.4 (Cary, NC USA). Mixed models were fit using PROC MIXED.

Results

The linear mixed model analysis included three models (Tables 2). In model 1 (unadjusted), a statistically significant relationship between gender identity and provider trust is observed (p -value=0.0034), with the nonbinary identity associated with lower levels of provider trust compared to cis men (p -value=0.0004, beta [95% Confidence Interval (CI)] -3.09 [-4.76, -1.43]).

After adjusting for age, race/ethnicity, and education in Model 2, the relationship between gender identity and provider trust remained statistically significant (p -value=0.0067). Further, a similar association was observed with nonbinary identity indicating lower levels of provider trust compared to cis male (p -value=0.0006, beta [95%CI] -3.12 [-4.87, -1.38]). In both unadjusted and adjusted models, no significant association was found between transphobia and provider trust.

Model 3 (Table 2) included both gender identity and transphobia, with all covariates

from model 2, and a gender identity by transphobia interaction term. The transphobia by gender identity interaction term demonstrated statistical significance (p -value=0.0003). Using transphobia values of 1.7 and 2.5 as examples of “lower” and “higher” transphobia, respectively, model-implied estimates from Model 3 indicate that at lower levels of transphobia, no trans and nonbinary participants reported significantly less trust in providers compared to participants who self-identified as cis men. However, at higher levels of transphobia, the model estimated significantly lower provider trust among nonbinary participants compared to cis men (p -value<0.0001, beta [95% CI] -7.05 [-9.53, -4.57]). Additionally, 1-SD increase in transphobia score was associated with significantly lower provider trust in the nonbinary group, while the transphobia effect was not statistically significant for the other gender identity groups (Table 2). This means increased levels of transphobia were associated with substantially lower provider trust among nonbinary participants compared to cisgender males, while this relationship was not observed among other gender identity groups. These findings highlight that nonbinary individuals are uniquely vulnerable to the compounding effects of transphobia on trust in providers.

Discussion

Our analysis shows the interaction of transphobia and gender identity is significantly associated with lower levels of provider trust among a sample of SGM individuals living in rural Appalachia. This relationship between transphobia and provider trust is particularly evident among those identifying as nonbinary. To our knowledge, this study is among the first to examine provider trust at the intersection of gender identity and transphobia in rural Appalachia, a region where limited provider

Note. Descriptive characteristics are shown in Table 1. The mean age of participants was 36.7 years, 62% identified as cis men, 21% as nonbinary, and 17% as transgender. Most participants identified as non-Hispanic White (62%) and reported having at least some college education (86%).

Table 1. <i>Characteristics of the analysis sample of participants (N = 141).</i>	
Variable	n (%) or Mean (SD^a)
Age (years)	36.7 (10.8)
Gender Identity	
Cis man	87 (61.7)
Nonbinary	30 (21.3)
Trans man	16 (11.3)
Trans woman	8 (5.7)
Race/Ethnicity	
Non-Hispanic White	87 (61.7)
Multi-racial and/or multi-ethnic	24 (17.0)
Hispanic/Latine	17 (12.1)
Non-Hispanic Black	8 (5.7)
AIAN, Asian, NHPI, or other ^b	5 (3.5)
Education	
High school or less	20 (14.2)
Some college or 2-year degree	59 (41.8)
4-year degree or more	62 (44.0)
Transphobia Score (range 1-5 higher = more transphobia)	2.1 (0.4)
Provider Trust Score (range 5-25 higher = more trust)	
Cis man	16.5 (3.6)
Nonbinary	13.2 (3.8)
Trans man	13.9 (4.1)
Trans woman	15.3 (4.1)
Provider Trust Sum Score	15.4 (3.9)
^a Standard Deviation	
^b AIAN=American Indian and Alaska Native; NHPI=Native Hawaiian and Pacific Islander.	

Table 2.

Linear mixed model analyses, examining the relationship between gender identity, transphobia (independent variables) and provider trust (dependent variable).

	<i>Model 1^a</i>		<i>Model 2^a</i>		<i>Model 3^a</i>	
Variable	Beta estimate (95% CI^c)	p- value	Beta estimate (95% CI)	p- value	Beta estimate (95% CI)	p- value
Main Effects (independent variables modeled separately)						
Gender Identity		0.003 4		0.0067		
Trans men vs Cis men	-2.21 (-4.34, - 0.09)	0.040 9	-2.00 (-4.21, 0.22)	0.0769		
Trans women vs Cis men	-1.34 (-4.16, 1.48)	0.349 9	-1.11 (-4.12, 1.91)	0.4698		
Nonbinary vs Cis men	-3.09 (-4.76, - 1.43)	0.000 4	-3.12 (-4.87, - 1.38)	0.0006		
Transphobias mean score (1-SD increase)	0.44 (-0.23, 1.12)	0.195 8	0.45 (-0.25, 1.15)	0.2075		
Interaction Estimates (example scenarios)						
					Interaction p- value	0.0003
Gender-identity contrasts at different levels of transphobia						
Lower Transphobia (value=1.7) ^b						
Trans men vs Cis men					-3.26 (-6.29, - 0.22)	0.0356
Trans women vs Cis men					3.53 (-5.86, 12.92)	0.4579
Nonbinary vs Cis men					-0.56 (-2.60, 1.47)	0.5856
Higher Transphobia (value=2.5) ^b						
Trans men vs Cis men					-1.02 (-4.31, 2.26)	0.5379
Trans women vs Cis men					-2.66 (-6.69, 1.37)	0.1933
Nonbinary vs Cis man					-7.05 (-9.53, - 4.57)	<.0001

Transphobia estimates for each gender identity						
Transphobia (1-SD increase): Trans men					1.89 (-0.40, 4.17)	0.1044
Transphobia (1-SD increase): Trans women					-2.33 (-8.13, 3.48)	0.4291
Transphobia (1-SD increase): Nonbinary					-2.47 (-3.89, -1.06)	0.0008
Transphobia (1-SD increase): Cis men					0.77 (0.07, 1.47)	0.0321
^a Model 1: Separate unadjusted models for gender identity and transphobia (i.e. not included in the same model); Model 2: Separate models (as model 1) adjusted for age, race/ethnicity, and education; Model 3: Both main effects, adjusted for Model 2 covariates, with transphobia by gender identity interaction term. From Model 3: variance component for random effect, 1.1; estimated marginal and conditional R^2 values, 0.20 and 0.27, respectively. Example scenario estimates are evaluated from the same model using the interaction term estimates coupled with the main effect estimates. ^b Interaction contrast estimates for gender identity at lower and higher levels of Transphobia (1 SD below and above the mean, respectively). ^c Confidence interval.						

availability, stigma, and resource scarcity create distinct barriers to affirming care (Behringer & Friedell, 2006). By centering nonbinary participants, whose experiences are often overlooked within broader SGM categories, our analysis shows how regional inequities compound mistrust in providers. These findings point to the importance of not only documenting disparities but also situating SGM health research in specific geographic and cultural contexts where the stakes for access and equity may be especially high.

Previous studies have identified stigma as a barrier to seeking healthcare among transgender and nonbinary persons (Renner et al., 2021). However, little research has examined the relationship between transphobia and provider trust specifically among nonbinary persons. A few studies have shown nonbinary (and genderqueer persons)

are more likely to be misgendered by or have negative experiences with their providers than persons identifying as transgender (Boyer et al., 2022; Goldberg et al., 2019). In addition, nonbinary persons are more likely to feel uncomfortable with their providers than transgender persons (Clark et al., 2018). Results from qualitative research with nonbinary persons similarly highlight negative provider interactions; themes of being misgendered, invalidated, or “erased” are common (Bindman et al., 2022; Burchell et al., 2024).

Negative experiences with providers can result in healthcare avoidance and nonengagement, resulting in poor health outcomes (Bindman et al., 2022; Lykens et al., 2018). Qualitative research suggests that nonbinary and genderqueer young adults avoid seeking medical care due to interactions with providers who misgendered

them or approached them from a binary gender perspective (Lykens et al., 2018). Similar results were found in an analysis of the 2013-2014 Canadian Trans Youth Health Survey, with nonbinary young adults more likely to avoid healthcare than their transgender peers (Clark et al., 2018). As these studies suggest, negative provider experiences and stigma are significant barriers to healthcare utilization among nonbinary persons. It is, therefore, important to acknowledge the unique experiences of nonbinary persons that contribute to their low rates of healthcare utilization (Reisner & Hughto, 2019).

It is imperative that providers are knowledgeable and sensitive to the needs of their gender diverse patients. Providers' knowledge and competency in serving SGM individuals can have a significant impact on access, uptake, and quality of care and adherence to provide guidance (Reeves et al., 2024). Beyond individual provider attitudes, structural mechanisms also shape patient trust (White Hughto et al., 2015). In rural Appalachia, where healthcare options are limited, these systemic barriers (e.g., binary intake forms and gender marker policies) can weigh even more heavily, which can leave nonbinary and transgender individuals with few alternatives. Addressing mistrust therefore requires not only provider training but also institutional reforms that dismantle structural transphobia at the policy level. Further, one-third of medical schools in the United States do not mandate any hours of health-related content focused on SGM individuals for trainees (Hollenbach et al., 2014). Kellett and Fitton proposed the implementation of cultural safety in healthcare delivery for transgender and nonbinary patients (Kellett & Fitton, 2017). As previously mentioned, this framework presents an individualized and comprehensive approach to interacting with each person while fully considering their

unique experiences (Baldwin et al., 2018; Kellett & Fitton, 2017). This approach can lead to more equitable treatment and improved healthcare experiences and outcomes for SGM individuals. Lastly, we believe policy-level changes are also critical, including the integration of nonbinary competency into medical licensure requirements and continuing education standards to ensure consistent implementation of affirming care practices.

Limitations: One limitation of our analysis is a lack of generalizability to SGM populations outside of rural Appalachia. Therefore, future studies should investigate whether these results are consistent in other geographic locations. In addition, our study has high representation of White (61.7%) and cis-male participants (61.7%) so ensuring more representation from racially and ethnically diverse nonbinary individuals is needed to further understand their experiences. Notably, 38.3% and 21.0% of the sample self-identified as non-White and nonbinary, respectively, reflecting our ability to identify and recruit diverse SGM individuals in a part of the United States that tends to have less racial/ethnic and gender diversity than the United States overall.

A further limitation is that the transphobia measure was developed originally for transgender individuals. Although we rely on prior work, the possibility remains that cisgender respondents interpret the items differently than transgender respondents. Thus, the scores among cisgender participants may reflect somewhat different latent constructs (e.g., generalized trans-attitudes rather than internalized trans-identity stigma). We therefore interpret findings with caution regarding direct comparisons of transphobia between cisgender and transgender/nonbinary participants. Finally, because this study relied on self-reported measures of provider trust and transphobia, participants' responses may

have been influenced by social desirability bias. Given the sensitivity of these topics, some individuals may have underreported negative experiences or overreported trust in providers, which could limit the precision of our findings.

Implications for Health Behavior Research

This study highlights the role of transphobia, especially as it affects nonbinary individuals, in undermining trust in healthcare providers, a critical determinant of care engagement. In rural contexts where gender diversity is less visible and stigma is heightened, transphobia may act as a silent barrier, even among sexual and gender minority populations. Health behavior researchers should prioritize analyses that specifically look at nonbinary individuals and avoid only collapsing diverse gender identities into overly broad categories. Practitioners and health systems must recognize that nonbinary individuals face distinct challenges, not just from providers but from broader healthcare structures designed around binary norms. Training alone is insufficient; systemic changes are needed to embed cultural safety into care delivery. In rural Appalachia, educating about and implementing gender-affirming care can build on existing infrastructures such as Area Health Education Centers, Federally Qualified Health Centers, and telehealth networks. These systems can deliver continuing education and integrate affirming practices (e.g., inclusive communication, recognition of structural stigma, and patient-centered relationships) into routine care. Embedding affirming care principles through these rural networks can enhance provider trust and access for transgender and nonbinary individuals.

Policy efforts should mandate inclusion of nonbinary health content in provider

education and enforce accountability for gender-affirming practices. Future research should prioritize greater inclusion of diverse transgender and nonbinary individuals and develop interventions that directly address stigma as a driver of medical mistrust. Future research should also investigate protective factors (e.g., supportive peer networks, affirming community organizations, and resilient coping strategies) which may buffer the negative impact of transphobia on provider trust. This study demonstrates that the interaction between transphobia and gender identity significantly influences provider trust, highlighting a key and actionable pathway for intervention development, training strategies, and inclusive healthcare system reform.

Discussion Questions

Our findings show that transphobia can influence the relationship between gender identity and provider trust, particularly among nonbinary individuals in rural Appalachia. How can future interventions be tailored to address this dynamic within rural health systems that often have fewer gender-affirming resources and higher needs for provider training?

What mechanisms beyond individual attitudes might explain how transphobia leads to decreased provider trust, and how can health behavior interventions address these broader contextual factors?

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Rachel W. Faller: Methodology, Writing – original draft

Amanda E. Tanner: Conceptualization, Funding acquisition, Methodology, Supervision, Writing – review & editing
Tamar Goldenberg: Supervision, Writing – review & editing

Jeanette M. Stafford: Formal analysis, Software, Writing – review & editing

Ana D. Sucaldito: Writing – review & editing

Lilli Mann-Jackson: Conceptualization, Writing – review & editing

Jorge Alonzo: Conceptualization, Data curation, Writing – review & editing

Manuel Garcia: Writing – review & editing

John W. Chaffin: Data curation, Writing – review & editing

Lucero Refugio Aviles: Writing – review & editing

David M. Kline: Writing – review & editing

Laurie P. Russell: Writing – review & editing

Tucker McGuire: Writing – review & editing

Peggy H. Weil: Writing – review & editing

Antonio Del Toro: Writing – review & editing

Aimee M. Wilkin: Writing – review & editing

Scott D. Rhodes: Conceptualization, Funding acquisition, Methodology, Supervision , Writing – review & editing

References

- Arrington-Sanders, R., Hailey-Fair, K., Wirtz, A. L., Morgan, A., Brooks, D., Castillo, M., Trexler, C., Kwait, J., Dowshen, N., Galai, N., Beyrer, C., & Celentano, D. (2020). Role of structural marginalization, HIV stigma, and mistrust on HIV prevention and treatment among young Black Latinx men who have sex with men and transgender women: Perspectives from youth service providers. *AIDS Patient Care and STDs*, 34(1), 7–15. <https://doi.org/10.1089/apc.2019.0165>
- Baldwin, A., Dodge, B., Schick, V. R., Light, B., Schnarrs, P. W., Herbenick, D., & Fortenberry, J. D. (2018). Transgender and genderqueer individuals' experiences with health care providers: What's working, what's not, and where do we go from here? *Journal of Health Care for the Poor and Underserved*, 29(4), 1300–1318. <https://doi.org/10.1353/hpu.2018.0097>
- Beckwith, N., Reisner, S. L., Zaslow, S., Mayer, K. H., & Keuroghlian, A. S. (2017). Factors associated with gender-affirming surgery and age of hormone therapy initiation among transgender adults. *Transgender Health*, 2(1), 156–164. <https://doi.org/10.1089/trgh.2017.0028>
- Behringer, B., & Friedell, G. H. (2006). Appalachia: Where place matters in health. *Preventing Chronic Disease*, 3(4), A113.
- Bindman, J., Ngo, A., Zamudio-Haas, S., & Sevelius, J. (2022). Health care experiences of patients with nonbinary gender identities. *Transgender Health*, 7(5), 423–429. <https://doi.org/10.1089/trgh.2021.0029>
- Bockting, W. O., Miner, M. H., Swinburne Romine, R. E., Dolezal, C., Robinson, B. “Bean” E., Rosser, B. R. S., & Coleman, E. (2020). The Transgender Identity Survey: A measure of internalized transphobia. *LGBT Health*, 7(1), 15–27. <https://doi.org/10.1089/lgbt.2018.0265>
- Boyer, T. L., Sequeira, G. M., Egan, J. E., Ray, K. N., Miller, E., & Coulter, R. W. S. (2022). Binary and nonbinary transgender adolescents' healthcare experiences, avoidance, and well visits. *Journal of Adolescent Health*, 71(4), 438–445. <https://doi.org/10.1016/j.jadohealth.2022.04.016>
- Burchell, D., Coleman, T., Travers, R., Aversa, I., Schmid, E., Coulombe, S., Wilson, C., Woodford, M. R., & Davis, C. (2024). ‘I don’t want to have to teach

- every medical provider': Barriers to care among non-binary people in the Canadian healthcare system. *Culture, Health & Sexuality*, 26(1), 61–76. <https://doi.org/10.1080/13691058.2023.2185685>
- Clark, B. A., Veale, J. F., Townsend, M., Frohard-Dourlent, H., & Saewyc, E. (2018). Non-binary youth: Access to gender-affirming primary health care. *International Journal of Transgenderism*, 19(2), 158–169. <https://doi.org/10.1080/15532739.2017.1394954>
- Dugan, E., Trachtenberg, F., & Hall, M. A. (2005). Development of abbreviated measures to assess patient trust in a physician, a health insurer, and the medical profession. *BMC Health Services Research*, 5(1), 64. <https://doi.org/10.1186/1472-6963-5-64>
- Goldberg, A. E., Kuvalanka, K. A., Budge, S. L., Benz, M. B., & Smith, J. Z. (2019). Health care experiences of transgender binary and nonbinary university students. *The Counseling Psychologist*, 47(1), 59–97. <https://doi.org/10.1177/0011000019827568>
- Hatzenbuehler, M. L., Phelan, J. C., & Link, B. G. (2013). Stigma as a fundamental cause of population health inequalities. *American journal of public health*, 103(5), 813–821. <http://dx.doi.org/10.2105/AJPH.2012.301069>
- Hollenbach, A. D., Eckstrand, K. L., & Dreger, (2014). Implementing curricular and institutional climate changes to improve health care for individuals who are LGBT, gender nonconforming, or born with DSD: A resource for medical educators. *Association of American Medical Colleges*. <https://store.aamc.org/implementing-curricular-and-institutional-climate-changes-to-improve-health-care-for-individuals-who-are-lgbt-gender-nonconforming-or-born-with-dsd-a-resource-for-medical-educators.html>
- Kattari, S. K., Bakko, M., Hecht, H. K., & Kattari, L. (2020). Correlations between healthcare provider interactions and mental health among transgender and nonbinary adults. *SSM - Population Health*, 10, 100525. <https://doi.org/10.1016/j.ssmph.2019.100525>
- Kellett, P., & Fitton, C. (2017). Supporting transvisibility and gender diversity in nursing practice and education: Embracing cultural safety. *Nursing Inquiry*, 24(1), e12146. <https://doi.org/10.1111/nin.12146>
- Lauckner, C., Lambert, D., Truszczynski, N., Jann, J. T., & Hansen, N. (2023). A qualitative assessment of barriers to healthcare and HIV prevention services among men who have sex with men in non-metropolitan areas of the south. *AIDS Care*, 35(10), 1563–1569. <https://doi.org/10.1080/09540121.2022.2105798>
- Lefkowitz, A. R. F., & Mannell, J. (2017). Sexual health service providers' perceptions of transgender youth in England. *Health & Social Care in the Community*, 25(3), 1237–1246. <https://doi.org/10.1111/hsc.12426>
- Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of health and social behavior*, 80–94. <http://dx.doi.org/10.2307/2626958>
- Lykens, J. E., LeBlanc, A. J., & Bockting, W. O. (2018). Healthcare experiences among young adults who identify as genderqueer or nonbinary. *LGBT Health*, 5(3), 191–196. <https://doi.org/10.1089/lgbt.2017.0215>
- Moorman JP, Krolikowski MR, Mathis SM, Pack RP. HIV/HCV co-infection: Burden of

- disease and care strategies in Appalachia. *Curr HIV/AIDS Rep.* (2018);15(4):308-314. <http://dx.doi.org/10.1007/s11904-018-0404-1>
- Movement Advancement Project. (2025, September). *LGBTQ Policy Tally: Mapping Equality for LGBTQ Youth*. Boulder, CO: Author. <https://www.mapresearch.org/2025-lgbtq-youth-report>
- Mulligan, A., Johnson, A.H., Harless, C. (2023). LGBTQ health & well-being in Western North Carolina. Campaign for Southern Equality: Asheville, NC.
- Poteat, T., German, D., & Kerrigan, D. (2013). Managing uncertainty: A grounded theory of stigma in transgender health care encounters. *Social Science & Medicine*, 84, 22–29. <https://doi.org/10.1016/j.socscimed.2013.02.019>
- Quinn, K. G., Dickson-Gomez, J., Craig, A., John, S. A., & Walsh, J. L. (2023). Intersectional discrimination and PrEP use among young Black sexual minority individuals: The importance of Black LGBTQ communities and social support. *AIDS and Behavior*, 27(1), 290–302. <https://doi.org/10.1007/s10461-022-03763-w>
- Reeves, K., Job, S., Blackwell, C., Sanchez, K., Carter, S., & Taliaferro, L. (2024). Provider cultural competence and humility in healthcare interactions with transgender and nonbinary young adults. *Journal of Nursing Scholarship*, 56(1), 18–30. <https://doi.org/10.1111/jnu.12903>
- Reisner, S. L., & Hughto, J. M. W. (2019). Comparing the health of non-binary and binary transgender adults in a statewide non-probability sample. *PLOS ONE*, 14(8), e0221583. <https://doi.org/10.1371/journal.pone.0221583>
- Renner, J., Blaszyk, W., Täuber, L., Dekker, A., Briken, P., & Nieder, T. O. (2021). Barriers to accessing health care in rural regions by transgender, non-binary, and gender diverse people: A case-based scoping review. *Frontiers in Endocrinology*, 12. <https://doi.org/10.3389/fendo.2021.717821>
- Rhodes, S. D., Alonzo, J., Mann-Jackson, L., Aviles, L. R., Tanner, A. E., Galindo, C. A., ... & Reboussin, B. A. (2024). Preexposure prophylaxis uptake among Spanish-speaking transgender women: A randomized controlled trial in North and South Carolina, 2019–2022. *American Journal of Public Health*, 114(1), 68–78. <http://dx.doi.org/10.2105/AJPH.2023.307444>
- Rhodes, S. D., Mann-Jackson, L., Alonzo, J., Aguilar-Palma, S. K., Neffa Creech, D., Keatley, J. G., ... & Montoya, J. (2025). Integrating CBPR and implementation science to develop a PrEP-promotion intervention for black transgender women. *Health Education & Behavior*, <http://dx.doi.org/10.1177/10901981251358706>.
- Ross, M. W., & Rosser, B. S. (1996). Measurement and correlates of internalized homophobia: A factor analytic study. *Journal of clinical psychology*, 52(1), 15–21. [http://dx.doi.org/10.1002/\(SICI\)1097-4679\(199601\)52:1%3C15::AID-JCLP2%3E3.0.CO;2-V](http://dx.doi.org/10.1002/(SICI)1097-4679(199601)52:1%3C15::AID-JCLP2%3E3.0.CO;2-V)
- Smolenski, D. J., Diamond, P. M., Ross, M. W., & Rosser, B. R. S. (2010). Revision, criterion validity, and multigroup assessment of the reactions to homosexuality scale. *Journal of Personality Assessment*. <https://www.tandfonline.com/doi/full/10.1080/00223891.2010.513300>
- Turan, J. M., Elafros, M. A., Logie, C. H., Banik, S., Turan, B., Crockett, K. B., Pescosolido, B., & Murray, S. M. (2019). Challenges and opportunities in

examining and addressing intersectional stigma and health. *BMC Medicine*, 17(1), 7. <https://doi.org/10.1186/s12916-018-1246-9>

White Hughto, J. M., Reisner, S. L., & Pachankis, J. E. (2015). Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions. *Social Science & Medicine*, 147, 222–231. <https://doi.org/10.1016/j.socscimed.2015.11.010>