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Access to and quality of care for sexual and gender minority women living with HIV in Metro Vancouver, Canada: Results from a longitudinal cohort study

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Abstract

Background: While scarce, literature suggests that women at the intersection of HIV status and gender and/or sexual minority identities experience heightened social and health disparities within health care systems.

Objectives: This study examines the association between sexual and/or gender minority identities and: (1) experiences of poor treatment by health professionals and (2) being unable to access health services among a cohort of women living with HIV in Metro Vancouver, Canada.

Design: Data were drawn from a longitudinal community–based cohort of women living with HIV (Sexual Health and HIV/AIDS Women's Longitudinal Needs Assessment).

Methods: We examined associations between sexual and/or gender minority identities and the two outcomes. We drew on explanatory variables to measure sexual minority and gender minority identities independently and a combined variable measuring sexual and/or gender minority identities. The associations between each of these three variables and each outcome were analysed using bivariate and multivariable logistic regression models with generalized estimating equations for repeated measures over time. Adjusted odds ratios and 95% confidence intervals are reported.

Results: The study sample included 1460 observations on 315 participants over 4.5 years (September 2014 to February 2019). Overall, 125 (39.7%) reported poor treatment by health professionals and 102 (32.4%) reported being unable to access health care services when needed at least once over the study period. A total of 110 (34.9%) of participants reported sexual and/or gender minority identities, 106 (33.7%) reporting sexual minority identities, with 29 (9.2%) reporting gender minority identities. In multivariable analysis, adjusting for confounders, sexual minority identities, and combined sexual and/or gender minority identities were significantly associated with increased odds of experiencing poor treatment by health professionals (sexual minority adjusted odds ratio = 1.39 (0.94–2.05); sexual and/or gender minority adjusted odds ratio = 1.48 (1.00–2.18)) and being unable to access health services (sexual minority adjusted odds ratio = 1.89 (1.20–2.97); sexual and/or gender minority adjusted odds ratio = 1.91 (1.23–2.98)). In multivariable analysis, gender minority identities were not significantly associated with increased odds of experiencing poor treatment by health professionals (gender minority adjusted odds ratio = 1.38; 95% CI = 0.76–2.52) and being unable to access health services (gender minority adjusted odds ratio = 1.72; 95% CI = 0.89–3.31) possibly due to low sample size among women with gender minority identities.

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Conclusion: Our findings suggest the need for access to inclusive, affirming, trauma-informed health care services tailored specifically for and by women living with HIV with sexual and/or gender minority identities.

Keywords
gender identity, gender minority women, health care services access, sexual minority women, sexual orientation, women living with HIV

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Introduction

Women living with HIV (WLWH) account for 18% of all people living with HIV (PLWH) in British Columbia,[1] Canada, and continue to experience unique and substantial barriers to accessing necessary health care.[2–7] WLWH can experience suboptimal and stigmatizing interactions with health care services providers by way of provision of substandard treatment, denial of health care services, excessive/unnecessary precautions taken by health care services staff, and non-consensual disclosure of patient's HIV status.[7–9] Discrimination and marginalization in accessing care can lead to decreased utilization of health saving services,[10,11] increased mental health issues, and poor quality of life.[9,12,13] As life expectancy for PLWH approaches the overall population due to advances in anti-retroviral therapy (ART) and other treatment, access to non-stigmatizing, non-discriminative primary care is essential for WLWH in the management of both age- and HIV-related disease.[14] Failure to recognize and address prejudicial and/or stereotypical views of WLWH by health care services providers can contribute to barriers of access and suboptimal health care services interactions for WLWH.[9,13] While scarce, literature suggests that women at the intersection of HIV status and gender minority (GM) and/or sexual minority (SM) identities experience heightened social and health disparities within the health care system.[15,16] There is aligned evidence to suggest that there remain substantial barriers to accessing care, including poor treatment by health care professionals, for sexual and/or gender minority (SGM) people relative to cisgender (cis) and/or heterosexual people, and WLWH relative to men.[8,9,17–24,25]

Transgender (trans) women, among people with other GM identities, bear a disproportionate burden of HIV while facing stigma, prejudice, and many barriers to accessing health care.[19] In a meta-analysis completed from 2000 to 2010, Baral et al. found the burden of worldwide HIV prevalence among 11,066 transgender women at 19.1% (95% confidence interval (CI) = 7.4–20.7), with nearly 50-fold higher odds of being diagnosed with HIV compared to all reproductive age adults.[26] A more recent review drawing on data from 2006 to 2017 found somewhat lower estimates and that among trans women and trans men, HIV infection prevalence estimates were 14.1% (95% CI = 8.7%–22.2%) and 3.2% (95% CI = 1.4%–7.1%), respectively.[27] In addition, GM people are more likely to experience lower socio-economic status, and more likely to experience violence, discrimination, economic abuse, social exclusion, and refusal of health care due to their gender identity.[20,21] And yet, GM people have also demonstrated creativity and strength navigating these barriers through social capital, sharing accommodating resources to navigate lack of access from denial of medical services and discriminatory attitudes of health care professionals.[17,22]

SM women also face barriers to accessing care and stigmatization by health care professionals. In a qualitative study with WLWH, Logie et al.[18] assessed intersectional experiences of stigma and demonstrated significant barriers for SGM people through transphobia (harassment, fear and/or violence against people with transgender, transsexual, non-binary and other gender identities that do not conform with cisgender norms), and/or sexual prejudice including homophobia (harassment, fear and/or violence against people with who identify as gay, lesbian, bisexual, queer and other sexual orientations that do not conform with heterosexual norms) by health care professionals, issues with siloed and exclusionary services (predominance of HIV services tailored for cis and/or heterosexual women, and lack of SGM services tailored to HIV care), and the combined stigma of homophobia, transphobia, and HIV stigma associated with heightened violence.[18] Barriers to accessing care for SM people are exacerbated by higher rates of mental health conditions,[23] physical and sexual violence for SM youth,[28] substance use,[24,25,28] and anti-lesbian, gay, bisexual, transgender, queer or questioning, or another diverse gender identity (LGBTQ+) discrimination.[24,25] Specifically, Lyons et al.[25] detailed queer sex workers' experiences of negative comments regarding their sexuality by health care providers, as well as barriers to housing due to same-sex relationships.[25]

Aside from the limited evidence, there remains a dearth of research with WLWH with marginalized and minoritized SM and/or GM identities that addresses their ability to access care and their treatment by health care professionals. WLWH with SGM identities experience intersectional stigma and discrimination, including racism, on the basis of multiple social identities,[15] thus highlighting how marginalized, intersectional identities experience confounding barriers accessing care by WLWH.[9,13,17,18,29] Our study is guided by an intersectional framework, first described by

Crenshaw,[30] and describes how social and structural oppression is experienced uniquely by people with different intersecting and overlapping social identities;[31] experiences of people with overlapping social identities can only be understood jointly and not independently.[32] This study examines the association between SGM identities and two outcomes, experiencing poor treatment by health professionals, and being unable to access to health services, among WLWH in Metro Vancouver, Canada. The results from this research will draw attention towards the health care services needs of women with marginalized and minoritized SM and/or GM identities who are living with HIV, who are often overlooked in programming and policy approaches to address health care services inequities.

Methods

Study design and procedures

This study included participants from the Sexual Health and HIV/AIDS Women's Longitudinal Needs Assessment (SHAWNA) Project, a longitudinal community–based cohort study.

As part of our community-based approach, SHAWNA is a partnership of community and HIV organizations and is informed by two advisory boards: a Community Stakeholder Advisory Board and a Positive Women's Advisory Board, comprised of WLWH who meet every 2–3 months. SHAWNA was developed in 2014 following over 6 months of extensive community consultations with WLWH, HIV care providers, and policy experts to uncover community priorities, research gaps, and social, policy, legal, gender, and geographical gaps in the health care of WLWH in Metro Vancouver. Furthermore, our community-based approach relies on a commitment to reciprocity in research; our project operates out of a community research hub in the Downtown Eastside neighbourhood of Vancouver, and area characterized by high levels of poverty and social and structural barriers to health inequities. All participants in SHAWNA are able to access referrals to various needed health and social services, including housing, food, mental health, primary care, and HIV treatment and care. We have a sexual health research nurse, who has been trained in trauma-informed principles and practices, onsite to help facilitate connections to health services. The community research hub holds drop-in hours throughout the day, and access to free coffee, water, snacks and other food, harm reduction resources, an Indigenous resource library, and clothing donations. We further hold a monthly drop-in day specific to women and non-binary/gender-diverse PLWH.

Consenting participants complete a questionnaire at baseline and every 6 months following, which is administered by trained peer researchers/community interviewers. Participants may interview at a community research office or in a safe, discreet location of their choice. The questionnaire explores topics including social and structural factors (e.g. trauma, violence, peer supports, access to housing and income assistance), socio-demographic factors (e.g. age, gender/sexual identity, housing history, ethnicity), and health and HIV care. Survey items on the questionnaire have been pilot-tested with staff and participants and created and revised to meet the needs of participants in our setting. Participants are offered voluntary and confidential sexually transmitted infections/hepatitis C (STI/HCV) testing and HIV monitoring (viral load/CD4 count) with a sexual health research nurse and are remunerated $50 CAD ($65 CAD from September 2021 on) at each biannual visit for their time, travel, and expertise. This study holds ethical approval via the Providence Health Care/University of British Columbia Research Ethics Board and BC Women's Hospital.

Sampling and recruitment

The study inclusion criteria were that participants needed to identify as either cisgender (cis) and/or trans (transgender, transsexual, and/or any other transfeminine identity) women at their baseline interview, be 14+ years of age or older, and be living in or accessing services in Metro Vancouver, Canada. Exclusion criteria included being younger than 14 years of age, having another gender identity besides cis and/or trans woman at their baseline interview, and living outside of Metro Vancouver and accessing health services outside Metro Vancouver. Consent could be written or verbal, depending on if the participant was being consented in person or remotely. We hold ethical approval to include youth between the ages of 14 and 17 years in the study based on the emancipated minor clause; however, the youngest participant at their baseline interview in SHAWNA was 22 years old. SHAWNA Project participants are recruited into the study using various community-based methods, including self-referral, referral by Peer Research Associates (PRAs) (WLWH), and by outreach team members and community partners (HIV care providers, peer navigators, HIV/AIDS organizations, and clinical outreach teams). SHAWNA is an open cohort and recruitment is ongoing. SHAWNA also closely collaborates with British Columbia's primary referral centres for WLWH, Oak Tree Clinic, BC Women's Hospital, which is a main site of recruitment for the study.

Study variables

Outcome (dependent) variables. The first outcome, measuring poor treatment by health professionals, was derived from asking participants, 'In the last 6 months, what barriers to receiving health care have you experienced?', with the option to select 'poor treatment by health care professionals'. Participants who ticked that they had experienced 'poor treatment by health professionals' were assigned 'yes' and participants who did not tick this response were

assigned 'no'. The second outcome, a measurement of being 'unable to access health care services', was derived from the survey question 'how often can you get health care services when you need it?'; inability to access care was categorized as 'yes' ('Sometimes', 'Occasionally', 'Never') versus 'no' ('Always', 'Usually'). Both outcomes were time-dependent and updated at each study visit.

Explanatory (independent) variables. A variable measuring sexual orientation was drawn from a survey item asking 'In the last 6 months, which of the following describes your sexual orientation (check all that apply)' and was defined as SM at any study visit (lesbian, gay, bisexual, queer, asexual, and/or Two-Spirit) versus only heterosexual at all study visits; a variable measuring gender identity was drawn from a survey item asking 'In the last 6 months, which of the following best describe(s) your gender identity (check all that apply)' and was defined as GM at any study visit, inclusive of trans (transgender, transsexual, other transfeminine identity), non-binary (non-binary, genderqueer), and/or Two-Spirit versus only reporting cis at all visits. Indigenous women were asked if they identified as Two-Spirit. Two-Spirit is an identity among people Indigenous to Turtle Island who identify as having both a masculine and a feminine spirit and may be used to describe any or all of sexual, gender and/or spiritual identity; however, this depends on the individual and context.[33]

Participants had the option to provide more than one response to questions on sexual orientation and gender identity. Based on evidence that minority stress processes affect all GM people relative to cis people,[34] and all SM people relative to heterosexual people,[35] for the purposes of analyses, we combined participants with responses to SM identities into one variable and GM identities into one variable. We further defined a variable measuring SGM identities. We anticipated small sample size for GM WLWH and combining SM and/or GM identities into one variable could provide more power for analysis, provided the associations between each individual variable and the outcomes were in the same direction.

Confounders

A full set of potential confounders were chosen based on theoretical and conceptually hypothesized associations between the main explanatory variable and the outcome. These include the minority stress model, which can be drawn on to better understand unique experiences of violence, stigma, and discrimination experienced by people with marginalization and minoritized SGM identities and socio-ecological models of health services access among marginalized populations, which acknowledge that an individual's perceptions, experiences, and behaviours is shaped through multilevel factors including at the intrapersonal, interpersonal, institutional, community, and policy levels.[35–39]

Socio-demographic factors included age at study visit (measured continuously, in years); race/ethnicity (self-report as Indigenous (First Nations, Métis, or Inuit), other racialized women/women of colour (African/Caribbean/Black/other racialized women/women of colour including East/South/Southeast Asian and Middle Eastern) vs White); and im/migrant to Canada, including refugee, immigrant, migrant, asylum seekers, and undocumented persons. The term Indigenous is used throughout while recognizing great diversity across and within languages, cultures, nations, and lands. While descriptive data were disaggregated, given the small sample size of Black participants, comparable to the BC population, Black women and otherwise racialized women were combined in modelling to understand experiences of non-Indigenous racialized women.

Remaining variables were time-updated factors, which captured events in the last 6 months at each semi-annual study visit. *Structural vulnerability* factors included housing instability (unsheltered at any point in the last 6 months; other unstable housing (e.g. single room occupancy hotels), but not unsheltered; supportive housing only; and living in an apartment/house only); sex work (exchanging sex for goods/money/services); incarceration (staying overnight or longer in detention/prison/jail); and criminalized injection and non-injection (excluding alcohol and cannabis) substance use. *Interpersonal* factors included experiencing physical or sexual violence by any perpetrator in the last 6 months and lifetime HIV status disclosure without consent ('ever being "outed" by anyone for knowing or suspecting you are HIV-positive'). *Health-related* factors included having a physical disability that limits mobility; persistent pain (reporting undiagnosed or diagnosed major or persistent pain); contemplating or attempting suicide; depression (diagnosis, treatment, or received counselling for depression); and anxiety (diagnosis, treatment, or received counselling for anxiety).

Statistical analysis

Our sample was restricted to participants who provided their sexual orientation and gender identity. Baseline descriptive statistics, including frequencies and proportions for categorical variables and medians and interquartile ranges (IQR) for continuous variables, were calculated for all variables and stratified by SM identities, GM identities, and combined SGM identities. Differences were assessed using Pearson's χ^2 test for categorical variables (Fisher's exact test was employed for small cell counts) and the Wilcoxon two-sample test for continuous variables. Descriptively, we provided the prevalence at baseline and over follow-up for responses to poor treatment by health professionals that described a lack of provider sensitivity to issues relating to trans people. We did not collect this same information with respect to sexual orientation,

which is a limitation of these results. To account for repeated measures by the same respondent, bivariate and multivariable logistic regression with generalized estimated equations (GEE) was conducted using an exchangeable correlation structure to examine the independent associations of SM identities and GM identities with the two outcomes. The logistic regression using GEE statistical approach is only able to use observations without missing data. This is called a "complete case" analysis. As expected, we did find small sample size among GM WLWH ($n=29$, 9.1%). We also expect that this would have an impact on power and the ability to detect statistical significance of the bivariate and multivariable logistic regression. We found that these associations were in the same direction (see section 'Results'), with higher odds of the outcomes associated with SM identities and GM identities. Thus, we investigated the relationships between the combined SGM identities and the two outcomes. Variables hypothesized to be confounders of the relationship between the explanatory variables on the two outcomes and those which were significantly associated at $p < 0.10$ in bivariate analysis were considered for inclusion in the full multivariable GEE confounder models. The most parsimonious models were determined using the method of Maldonado and Greenland,[40] where reduced models were constructed by removing potential confounders one at a time and excluding the variable that produced the smallest relative change in the effect estimate for the explanatory variables. This process was repeated until the minimum relative change exceeded 5%. All reported *p*-values are two-sided, and odds ratio (ORs) and adjusted odds ratios (AORs) with 95% CIs are reported. SAS version 9.4 was used for statistical analyses (SAS Institute Inc., Cary, NC, USA). We have followed the STROBE Guidelines when preparing this article.

Results

Sample characteristics

The sample included 1460 observations on 315 participants over 4.5 years (September 2014 to February 2019). Tables 1 and 2 summarize the sample characteristics reported by participants at their baseline interview, stratified by SM identities (Table 1), GM identities (Table 1), and combined sexual and/or minority identities (Table 2). At baseline, 18.4% (58) reported poor treatment by health professionals, and 11.4% (36) of the sample reported being unable to access health care services when needed in the last 6 months. Overall, 39.7% (125) reported poor treatment by health professionals and 32.4% (102) reported being unable to access health care services when needed at least once over the 4.5-year study period.

The median participant age was 44 years old (IQR = 38–52 years) (Table 1). A total of 34.9% (110) of participants reported either SM and/or GM identities and 7.9% (25) reported both SM and GM identities. Overall, 33.7% (106) reported SM identities (across all gender identities) and 25.5% (81) reported SM identities only (cis women), with 9.2% (29) reporting GM identities (across all sexual orientations) and 1.3% (4) as GM only (straight women). Overall, 6.4% (20) reported trans identity and 1.6% (5) reported non-binary gender identity. Indigenous persons were overrepresented in this sample at 56.5% (178) relative to the population of British Columbia (5.9% in 2016 by Statistics Canada); 12.4% (22) of Indigenous participants were Two-Spirit women. The sample also included 8.9% (28) other racialized participants, and 34.6% (109) White participants (Table 1).

Bivariate and multivariable analyses

Tables 3–5 present results from bivariate and multivariable logistic regression using GEE, including ORs, AORs, and 95% CIs for the associations between the main explanatory variables and the two outcomes. In bivariate analysis, SM identities and combined SGM identities were significantly associated with increased odds of experiencing poor treatment by health professionals (SM identities OR = 1.51 (1.04–2.19); SGM OR = 1.52 (1.02–2.27)) and being unable to access health services (SM identities OR = 1.77 (1.14–2.75); SGM OR = 1.77 (1.13–2.78)). In bivariate analysis, GM identities were not significantly associated with increased odds of experiencing poor treatment by health professionals (OR = 1.12 (0.66–1.90)) and being unable to access health services (OR = 1.42 (0.72–2.90)) likely due to low sample size among GM women.

The following variables were significantly associated with increased odds of experiencing poor treatment by health professionals at a $p < 0.10$ level in bivariate analysis and included as potential confounders in multivariable analysis: in the last 6 months: incarceration (overnight or longer); having a physical disability; having persistent pain; being diagnosed, treated, or monitored for anxiety; contemplating or attempting suicide; experiencing internalized HIV stigma; experiencing enacted HIV stigma; and lifetime non-consensual disclosure of HIV status. The following variables were significantly associated with increased odds of being unable to access health care services at a $p < 0.10$ level in bivariate analysis and included as potential confounders in multivariable analysis: race; and in the last 6 months: unstable housing (vs living in an apartment/house); contemplating or attempting suicide; having a physical disability; having persistent pain; experiencing internalized HIV stigma. Sex work was significantly associated with lower odds of being unable to access necessary primary care at a $p < 0.10$ level.

In multivariable analysis, SM identities and combined SGM identities were significantly associated with increased odds of experiencing poor treatment by health professionals (SM AOR = 1.89 (1.20–2.97); SGM AOR = 1.48 (1.00–2.18)) and being unable to access

Table 1. Sample characteristics of women living with HIV in SHAWNA at baseline and stratified by sexual or gender minority identities.[a,b]

	Overall $N=318$	Sexual minority[a] identities		p	Missing n (%)	Gender minority[b] identities		p	Missing n (%)
		Yes $n=106$ (33.3%)	No $n=211$ (66.7%)			Yes $n=29$ (9.1%)	No $N=287$ (90.9%)		
Social demographic factors									
Age (median, Q1–Q3)	44 (38–52)	43 (38–52)	45 (38–51)	0.646	0 (0)	36 (41–47)	38 (45–52)	0.068	0 (0)
Race				0.058	1 (0.3)			<0.001	2 (0.6)
Indigenous[c]	178 (56.0)	44 (41.5)	66 (31.3)			26 (89.7)	152 (53.0)		
White	110 (34.6)	57 (53.8)	121 (57.4)			*	106 (36.9)		
Otherwise racialized persons	30 (9.4)	5 (4.7)	24 (11.4)			0 (0)	29 (10.1)		
Im/migrated to Canada	31 (9.8)	6 (5.67)	24 (11.4)	0.101	1 (0.3)	0 (0)	30 (10.5)	0.067	2 (0.6)
Structural vulnerability factors									
Housing stability				0.300	4 (1.3)			0.249	5 (1.6)
Unsheltered at any point[d]	64 (20.1)	24 (22.6)	40 (19.0)			10 (34.5)	53 (18.5)		
Any unstable housing[d]	150 (47.2)	53 (50.0)	97 (46.0)			11 (37.9)	138 (48.1)		
Supportive housing only[d]	50 (15.7)	17 (16.0)	33 (15.6)			*	46 (16.0)		
Apartment/House only[d]	51 (16.0)	11 (10.4)	39 (18.5)			*	47 (16.4)		
Sex work[d]	101 (31.8)	40 (37.7)	61 (28.9)	0.099	2 (0.6)	16 (55.2)	85 (29.6)	0.005	3 (0.9)
Incarceration[d]	18 (5.7)	5 (4.7)	13 (6.2)	0.600	4 (1.3)	*	17 (5.9)	0.576	5 (1.6)
Injection drug use[d]	140 (44.0)	56 (52.8)	84 (39.8)	0.025	3 (0.9)	17 (58.6)	122 (42.5)	0.066	4 (1.3)
Non-injection drug use[d]	175 (55.0)	66 (62.3)	109 (51.7)	0.088	3 (0.9)	19 (65.5)	155 (54.0)	0.251	4 (1.3)
Interpersonal factors									
Any physical/sexual violence by any perpetrator[d]	48 (15.1)	17 (16.0)	31 (14.7)	0.604	20 (6.3)	6 (20.7)	42 (14.6)	0.370	21 (6.6)
HIV status disclosed without consent (lifetime)	166 (52.2)	61 (57.6)	104 (49.3)	0.147	9 (2.8)	15 (51.7)	151 (52.6)	0.805	10 (3.1)
Health-related Factors									
Physical disability	130 (40.9)	44 (41.5)	86 (40.8)	0.951	3 (0.9)	8 (27.6)	122 (42.5)	0.113	4 (1.3)
Major/persistent pain[d]	151 (47.5)	51 (48.1)	99 (46.9)	0.723	3 (0.9)	13 (44.8)	138 (48.1)	0.854	4 (1.3)
Contemplating or attempting suicide[d]	38 (12.0)	19 (17.9)	19 (9.0)	0.023	6 (1.9)	5 (17.2)	33 (11.5)	0.340	7 (2.2)
Depression (diagnosed treated, monitored)[d]	94 (29.6)	36 (34.0)	58 (27.5)	0.234	1 (0.3)	9 (31.0)	85 (29.6)	0.874	2 (0.6)
Anxiety (diagnosed treated, monitored)[d]	80 (25.2)	28 (26.4)	52 (24.6)	0.732	1 (0.3)	6 (20.7)	74 (25.8)	0.548	2 (0.6)
Outcomes									
Poor treatment by health professionals[d]	58 (18.2)	24 (22.6)	34 (16.1)	0.156	1 (0.3)	9 (31.0)	49 (17.1)	0.064	2 (0.6)
Unable to access health services[d]	36 (11.3)	18 (17.0)	18 (8.53)	0.025	1 (0.3)	6 (20.7)	30 (10.5)	0.098	2 (0.6)
HIV stigma[e]	Overall $n=271$ (100)								
Internalized HIV stigma[d]	73 (26.9)	27 (28.4)	46 (26.1)	0.559	11 (4.1)	7 (29.2)	66 (26.7)	0.792	11 (4.1)
Anticipated HIV stigma[d]	182 (67.2)	60 (63.2)	122 (69.3)	0.393	11 (4.1)	15 (62.5)	167 (67.6)	0.600	11 (4.1)
Enacted HIV stigma[d]	101 (37.3)	37 (39.0)	64 (36.4)	0.565	19 (7.0)	9 (37.5)	92 (37.3)	0.922	19 (7.0)

HIV: human immunodeficiency virus; SHAWNA: Sexual Health and HIV/AIDS Women's Longitudinal Needs Assessment.

[a]Sexual minority identities at any study visit (lesbian, gay, bisexual, queer, asexual, Two-Spirit, other) versus heterosexual at all study visits.

[b]Gender minority identities at any study visit, inclusive of trans (transgender, transsexual, other transfeminine identity) and non-binary (non-binary, genderqueer, Two-Spirit, other) versus cisgender at all visits.

[c]Includes self-identity as First Nations, Métis, and Inuit People.

[d]In the last 6 months.

[e]HIV stigma survey items were asked in a subset of follow-up interviews (from 2015 onward) and thus have a smaller sample size of 271 relative to the overall sample.

*Small cell count ($n \leqslant 5$) and removed from table.

Table 2. Sample characteristics of women living with HIV in SHAWNA at baseline stratified by sexual and/or gender minority identities.[a,b]

	Overall ($N=315$)	Sexual[a] and/or gender[b] minority identities		p	Missing n (%)
		Yes $n=110$ (34.9%)	No $n=205$ (65.1%)		
Sample characteristics					
Social demographic factors					
Age (median, Q1–Q3)	44 (38–52)	43 (38–52)	45 (38–51)	0.645	0 (0)
Race				0.080	0 (0)
Indigenous[c]	178 (56.5)	61 (55.4)	117 (57.1)		
White	109 (34.6)	44 (40.0)	65 (31.7)		
Otherwise racialized persons	28 (8.9)	5 (4.6)	23 (11.2)		
Im/migrated to Canada	29 (9.2)	6 (5.5)	23 (11.2)	0.092	0 (0)
Structural vulnerability factors					
Housing stability				0.538	3 (1.0)
Unsheltered at any point[d]	63 (20.0)	24 (21.8)	39 (19.0)		
Any unstable housing[d]	149 (47.3)	54 (49.1)	95 (46.3)		
Supportive housing only[d]	50 (15.9)	18 (16.4)	32 (15.6)		
Apartment/house only[d]	50 (15.9)	13 (11.8)	37 (18.1)		
Sex work[d]	101 (32.1)	42 (38.2)	59 (28.8)	0.078	1 (0.3)
Incarceration[d]	18 (5.7)	5 (4.6)	13 (6.3)	0.512	3 (1.0)
Injection drug use[d]	139 (44.1)	58 (52.7)	81 (39.5)	0.022	2 (0.6)
Non-injection drug use[d]	174 (55.2)	69 (62.7)	105 (51.2)	0.061	2 (0.6)
Interpersonal factors					
Any physical/sexual violence by any perpetrator[d]	48 (15.1)	18 (16.4)	30 (14.6)	0.5154	22 (7.0)
HIV status disclosed without consent (lifetime)	165 (52.4)	61 (55.5)	104 (50.7)	0.402	8 (2.5)
Health-related factors					
Physical disability	130 (41.3)	46 (41.8)	84 (41.0)	0.940	2 (0.6)
Major/persistent pain[d]	150 (47.6)	52 (47.3)	98 (47.8)	0.954	2 (0.6)
Contemplating or attempting suicide[d]	38 (12.1)	20 (18.2)	18 (8.8)	0.016	5 (1.6)
Depression (diagnosed treated, monitored)[d]	94 (29.8)	36 (32.7)	58 (28.3)	0.412	0 (0)
Anxiety (diagnosed treated, monitored)[d]	80 (25.4)	28 (25.5)	52 (25.4)	0.986	0 (0)
Suboptimal emotional health[e]	152 (48.3)	57 (51.8)	95 (46.3)	0.375	1 (0.3)
Feeling downhearted or blue[e]	74 (23.5)	26 (23.6)	48 (23.4)	0.931	1 (0.3)
Outcomes					
Poor treatment by health professionals[d]	58 (18.4)	24 (21.8)	34 (16.6)	0.253	0 (0)
Unable to access health services[d]	36 (11.4)	19 (17.3)	17 (8.3)	0.017	0 (0)
HIV stigma[e]	Overall ($N=271$)	Yes ($n=99$)	No ($n=172$)		
Internalized HIV stigma[d]	73 (26.9)	27 (27.3)	46 (26.7)	0.798	11 (3.5)
Anticipated HIV stigma[d]	182 (67.2)	62 (62.6)	120 (69.8)	0.284	11 (3.5)
Enacted HIV stigma[d]	101 (37.3)	38 (38.4)	63 (36.6)	0.683	19 (6.0)

HIV: human immunodeficiency virus; SHAWNA: Sexual Health and HIV/AIDS Women's Longitudinal Needs Assessment.
[a]Sexual minority identities at any study visit (lesbian, gay, bisexual, queer, asexual, Two-Spirit, other) versus heterosexual at all study visits.
[b]Gender minority identities at any study visit, inclusive of trans (transgender, transsexual, other transfeminine identity) and non-binary (non-binary, genderqueer, Two-Spirit, other) versus cisgender at all visits.
[c]Includes self-identity as First Nations, Métis, and Inuit People.
[d]In the last 6 months.
[e]HIV stigma survey items were asked in a subset of follow-up interviews (from 2015 onward) and thus have a smaller sample size of 271 relative to the overall sample.

health services (SM AOR = 1.39 (0.94–2.05); SGM AOR = 1.91 (1.23–2.98)). In multivariable analysis, GM identities were not significantly associated with increased odds of experiencing poor treatment by health professionals (AOR = 1.38; 95% CI = 0.76–2.52) and being unable to access health services (AOR = 1.72; 95% CI = 0.89–3.31) again likely due to low sample size among GM women.

Table 3. Unadjusted and adjusted odds ratios and 95% confidence intervals (CI) from bivariate and multivariable logistic regression with GEE for the association between sexual and/or gender identities and health care access outcomes, among a cohort of women living with HIV (2014–2019, $N = 318$). Sexual minority identity as explanatory variable.

	Bivariate analysis OR (95% CIs)	*p*	Multivariable analysis AOR (95% CIs)	*p*
Poor treatment by health professionals[a]	**1.51 (1.04–2.19)**	0.032	1.39 (0.94–2.05)[b]	0.099
Unable to access necessary health services[a]	**1.77 (1.14–2.75)**	0.011	**1.89 (1.20–2.97)**[c]	0.006

GEE: generalized estimating equation; HIV: human immunodeficiency virus; OR: odds ratio; AOR: adjusted odds ratio.
[a]Time-updated outcome with last 6 months as a reference point.
[b]Adjusted odds ratio is adjusted for physical disability and persistent pain.
[c]Adjusted odds ratio is adjusted for race, contemplating or attempting suicide, and sex work.

Table 4. Unadjusted and adjusted odds ratios and 95% confidence intervals (CI) from bivariate and multivariable logistic regression with GEE for the association between sexual and/or gender identities and health care access outcomes, among a cohort of women living with HIV (2014–2019, $N = 318$.) Gender minorities identities as explanatory variable.

	Bivariate analysis OR (95% CIs)	*p*	Multivariable analysis AOR (95% CIs)	*p*
Poor treatment by health professionals[a]	1.12 (0.66–1.90)	0.679	1.38 (0.76–2.52)[b]	0.287
Unable to access necessary health services[a]	1.42 (0.72–2.80)	0.313	1.72 (0.89–3.31)[c]	0.105

OR: odds ratio; CI: confidence interval; AOR: adjusted odds ratio; HIV: human immunodeficiency virus.
[a]Time-updated outcome with last 6 months as a reference point.
[b]Adjusted odds ratio is adjusted for race, incarceration, physical disability, persistent pain, and lifetime non-consensual HIV disclosure.
[c]Adjusted odds ratio is adjusted for race, persistent pain, contemplating or attempting suicide, and sex work.

Table 5. Unadjusted and adjusted odds ratios and 95% confidence intervals (CI) from bivariate and multivariable logistic regression with GEE for the association between sexual and/or gender identities and health care access outcomes, among a cohort of women living with HIV (2014–2019, $N = 318$). Sexual and/or gender minority identities as explanatory variable.

	Bivariate analysis OR (95% CIs)	*p*	Multivariable analysis AOR (95% CIs)	*p*
Poor treatment by health professionals[a]	**1.52 (1.02–2.27)**	0.041	**1.48 (1.00–2.18)**[b]	0.053
Unable to access necessary health services[a]	**1.77 (1.13–2.78)**	0.013	**1.91 (1.23–2.98)**[c]	0.004

OR: odds ratio; CI: confidence interval; AOR: adjusted odds ratios; HIV: human immunodeficiency virus.
[a]Time-updated outcome with last 6 months as a reference point.
[b]Adjusted odds ratio is adjusted for lifetime non-consensual HIV disclosure.
[c]Adjusted odds ratio is adjusted for race, contemplating or attempting suicide, and sex work.

Discussion

Our study suggests that WLWH with SGM identities continue to experience suboptimal interpersonal interactions with health care services professionals and barriers in accessing necessary health care services in an urban, resource-rich setting in Canada.

Limitations and strengths

Our study has several limitations, as well as strengths. Our primary outcomes and all variables in the study are self-reported by participants during face-to-face interviews. Asking about events in the previous 6 months may introduce recall bias. Participants' responses may have been subject to social desirability bias given the sensitivity of some questions (e.g. poor treatment by health professionals). However, this bias is expected to be minimal due to the experience and rapport-building of trained community interviewers, and efforts to ensure safety and privacy and enable participants to feel comfortable discussing difficult topics. Our study was unable to elucidate the reasons for why participants were treated poorly by health professionals. Identifying a reason can be challenging for people, especially those with intersecting marginalized social identities. Future research would benefit from drawing on a strengths-focused qualitative approach to better understand negative provider behaviour among providers and SGM WLWH. While our study drew on an intersectional framework to help shape research questions and guide interpretation of results, we were limited by the use of identities rather than direct measurements of discrimination experienced by SGM people and WLWH to understand relationships with health services access barriers.

Qualitative research would be the ideal method to incorporate nuances in people's unique gender identities, modalities and sexual orientations, their specific experiences with discrimination, and how these experiences have shaped their engagement and use of health services. Nevertheless, interpretations that delineate how oppression and marginalization experienced on structural and interpersonal levels are linked with overlapping social identities is critical for understanding underlying mechanisms and pathways to explain health inequities. Future research should draw on emerging foundational research that seeks to advance quantitative and qualitative intersectional research methodology.[41–44]

Generalizability

While our sample may not be representative of all WLWH in Metro Vancouver, recruitment for SHAWNA draws on community-based principles, allowing us connect with a diverse sample of WLWH in multiple regions. Larger studies with SGM women are critically needed to help understand barriers and facilitators to health services access by SGM WLWH. While eligibility was women (cis or trans) at baseline, five people also identified as genderqueer or non-binary at follow-up. We recognize the tensions in wanting to both not erase the gender fluidity or collapse non-binary people into some, while also acknowledging the study did not adequately sample non-binary people based on original eligibility (cis and trans women).

Interpretation

Our study identified that SM identities and combined SGM identities were significantly associated with increased odds of experiencing poor treatment by health professionals and being unable to access health services associated with higher odds of poor treatment. Our study suggests that there is an association between GM identities and being unable to access health services. While this association was not statistically significant, the effect size was relatively high (AOR = 1.7). We expect our relatively low sample size among GM women ($n = 29$) to have an impact on power to detect statistical associations. Moreover, our findings corroborate other research in diverse settings that demonstrate suboptimal quality of interactions with health providers and access to health care services for GM[8,18,19,22,45–49] and SM people.[13,18,50–52] Some studies detail gender discrimination against GM WLWH, including transphobia,[17,50,53,54] and sexual prejudice including homophobia experienced by SM WLWH when accessing health care services, including HIV care.[18,52] Trans WLWH have further experienced misgendering, dead-naming, being refused necessary care, health care services providers using harsh/abusive language or being physically rough/abusive, and being blamed for their health status while accessing health care services demonstrate substantial intersectional enacted stigma, significant barriers to accessing health care services.[17,54]

Our results can be understood within the theory of minority stress, first developed by Brooks[38] with a focus on the perspectives of SM populations and highlighted in Rich.[38,39] Brooks[38] described minority stress as a 'state intervening between sequential antecedent stressors of culturally sanctioned, categorically ascribed inferior status, resultant prejudice and discrimination, the impact of these forces on the cognitive structure of the individual, and consequent readjustment or adaptational failure' (p. 84).[38,39] In Brooks'[38] model, both economic factors (given evidence that economic opportunities are restricted for SM persons) and interpersonal stressors (including enacted stigma and discrimination) were considered mediators in the relationship between these antecedent stressors and psychological and biophysical outcomes (i.e. a state of stress), and ultimately worse health outcomes on an individual level. In an adaptation of the minority stress model, Meyers posited that experiences of psychological stress and distress experienced by SGM people are driven by 'minority stressors', including distal minority stressors (e.g. experiences of discrimination) and proximal stressors (e.g. anticipated discrimination related to disclosure of sexual orientation and/or gender identity, perceived discrimination related to negative social attitudes about sexual orientation and/or gender identity or internalized transphobia, homophobia, or other discrimination based on gender identity, or heterosexism).[55]

Barriers to accessing health services and responses to barriers among WLWH with marginalized and minoritized gender and/or sexual identities are present at all levels throughout the minority stress model. In our study, we draw on this model to conceptualize distal and proximal minority stressors as antecedent to health services access barriers among SGM WLWH. This is in line with much other research suggesting that discrimination in health care experienced by SGM people has been associated with delaying and avoiding needed health care services,[10,11,20] and our study suggesting that SGM identity is associated with poor treatment by health professionals and being unable to access health services when needed.

Implications

The minority stress model can be drawn on to understand how to make positive changes to reduce discrimination related to gender identity and sexual orientation within the culture of health care in order to promote a safe and welcoming environment of care and practice among WLWH on an institutional and interpersonal level. Antecedent structural and systemic discrimination shapes the amount and quality of education that health providers and others involved in health care decision-making receive about SGM health and HIV. Increased training opportunities for health providers in how to create and provide inclusive health services with WLWH with SGM identities on an

interpersonal/provider level.[56] Evidence suggests that health care services providers' discomfort and/or lack of knowledge for the adequate primary care of WLWH with SGM identities can undermine patient–provider relationships,[45] leading to distal stigmatizing experiences,[57] and increased avoidance of health care services by SGM people.[58] Calls have been made not only to increase training opportunities sexual and/or GM health while in health professional programmes, but to introduce this training earlier to optimize effectiveness, in additional to considering whether or not applicants to programmes have engaged in pre-professional training.[59,60] On a systemic level, health care providers and policy-makers can actively work to improve health care services experiences through advocacy for institution-wide adoption of the addition of pronouns pins to ID badges, standard use of gender-neutral language when asking about patient's bodies and partner(s) to diminish barriers for non-cis/heteronormative patients. Additional characteristics of inclusive systemic health care among trans WLWH includes incorporating primary gender-affirming care in family practice residency, which should include but is not limited to competency in the prescription of HIV and transition-related medications, hormones, and facilitating access to surgery.[47] At the same time, these challenges also need to be understood in the context of structural shortages of family physicians in Canada, which limits access to primary care.[61]

In addition to increasing training opportunities for health providers, it is further critical to increase opportunities for SGM people interested in pursuing training as health care providers.[62] At the same time, SGM health care providers continue to experience discrimination and harassment within the health services education and provision environments by other providers as well as patients, highlighting barriers to disclosure of sexual and/or gender identity.[63] Options for protection and support that may be available to SGM health providers as well as SGM WLWH and should be scaled up include personal safety measures, including peer support and individual protection strategies to manage negative interactions with patients, peers, and supervisors.[60] In practice, protective policies are limited. Suggested systemic changes in response include improving research with SGM providers to understand barriers and facilitators to engaging in the health services workforce, developing policies and programmes to support inclusion of SGM providers and hold organizations accountable to commitments to equity, and creating safe, inclusive environments conducive to increased recruiting of SGM providers.[62] Further strategies designed at the institutional or structural level could include workplace policies and guidelines, including structured complaint and reporting procedures for SGM health providers as well as SGM WLWH.[64]

Health care services that adopt inclusive practice and policies with SGM patients result in decreased experiences of distal anticipated discrimination, as well as improved access and quality of life for SGM patients.[19,49,65,66] On an interpersonal/provider level, examples in practice could include establishing and accurately identifying sexual and/or gender identity through regularly collecting information on sexual orientation and gender identity in a way that feels safe and confidential, understanding responses and behaviours in the context of structural inequities including discrimination, demonstrating comfortability with use of gender-neutral language/gender-diverse pronouns,[66] and for trans WLWH, prescription of ART alongside hormone therapy and assistance/advocacy with legal change of gender marker to reduce misgendering accessing health care services.[19,47] Recognizing the substantial impact of trauma and violence experienced by women with SGM identities,[67] WLWH,[68] and WLWH with SGM identities,[69] such approaches should draw on trauma-informed principles and practice.[70,71] An HIV diagnosis occurs at the intersection of multiple social and structural inequities, including historical and ongoing trauma, colonial violence, poverty, and criminalization that are enacted on multiple levels, including individual, social, and institutional levels. WLWH with SGM identities experience intersectional stigma and discrimination, including racism, on the basis of multiple social identities,[15] thus highlighting how marginalized, intersectional identities experience confounding barriers accessing care by WLWH.[9,13,17,18,29] Responses to address health services access inequities, including interventions, policies, and programming, therefore need to take into account intersecting and overlapping social identities to optimize results.[31]

Conclusion

Our findings suggest the need for improved access to inclusive, affirming, trauma-informed health care services tailored specifically for and by WLWH with SGM identities. Addressing intersecting discrimination experienced by WLWH with SGM identities in health care require multilevel approaches to reduce barriers to accessing services, including at the health systems (e.g. institution-wide adoption of SGM-inclusive policies), education (e.g. health competency training; safe/supportive environments for SGM providers), and provider levels (e.g. improved interpersonal interactions). Harmful social norms that fuel discrimination of gender identity and sexual orientation need to be addressed overall, and particularly within the culture of health care in order to promote a safe environment of care and practice with SGM WLWH.

Declarations

Ethics approval and consent to participate

This study holds ethical approval via the Providence Health Care/University of British Columbia Research Ethics Board (H14-01073) and BC Women's Hospital. Consenting participants complete a questionnaire at baseline and every 6 months

following, which is administered by experienced community interviewers. Consent could be written or verbal, depending on if the participant was being consented in person or remotely. We hold ethical approval to include youth between the ages of 14 and 17 years in the study based on the emancipated minor clause; however, the youngest participant at their baseline interview in SHAWNA was 22 years old.

Consent for publication

NA.

Author contribution(s)

H Perrin: Conceptualization; Methodology; Writing – original draft; Writing – review & editing.
K Shannon: Writing – review & editing.
AJ Lowik: Writing – review & editing.
A Rich: Writing – review & editing.
S Baral: Writing – review & editing.
M Braschel: Data curation; Formal analysis; Writing – review & editing.
K Deering: Conceptualization; Funding acquisition; Investigation; Methodology; Supervision; Writing – original draft; Writing – review & editing.

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Competing interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Availability of data and materials

The datasets generated and/or analysed during the current study are not publicly available due to ethical restrictions related to confidentiality and the sensitivity of these data collected with a highly criminalized and marginalized population. These restrictions on sharing data beyond the study team are imposed by the Providence Health Care/University of British Columbia Research Ethics Board. Data are available on reasonable request and subject to approval by the Providence Health Care/University of British Columbia Research Ethics Board by emailing julie.hadden@ubc.ca.

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Supplemental material

Supplemental material for this article is available online.

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