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## Healthcare Access Among Two-Spirit, Gay, Bisexual, Queer, and Other Men Who Have Sex with Men in Manitoba

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5 **Healthcare Access Among Two-Spirit, Gay, Bisexual, Queer, and Other Men Who Have Sex**  
6 **with Men in Manitoba**  
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## Abstract

**Objective:** Previous research has shown that Two-Spirit, gay, bisexual, and queer (2SGBQ+) men in Canada experience barriers to accessing health care that may not be adequately addressed by existing health care services. However, little is known about the experiences of 2SGBQ+ men in Manitoba.

**Methods:** This community-based study examined the association between socio-demographics, discrimination in healthcare, perceived health practitioner's competence and knowledge of issues affecting 2SGBQ+ men, and healthcare access among a sample of 368 2SGBQ+ men in Manitoba. Data were drawn from a survey designed to examine health and healthcare access among 2SGBQ+ men in Manitoba. Logistic regression analyses assessed the relationship between socio-demographics, healthcare discrimination, perceived healthcare providers' 2SGBQ+ competence and knowledge, and two indicators of healthcare access: 1) having a regular doctor/healthcare provider, and 2) having had a healthcare visit in the past 12 months.

**Results:** Multivariable logistic regression analyses revealed a significant association between the geographic area where participants lived, perceived healthcare providers' competence and knowledge of 2SGBQ+ men's issues and access to a regular doctor/healthcare provider. The association between the geographic area where participants lived, sexual orientation identity and having a healthcare visit in the past 12 months also emerged as significant.

**Conclusions:** These findings underscore the importance of reducing the gap between the healthcare access of rural and urban 2SGBQ+ men and addressing healthcare providers' lack of knowledge and cultural competence in healthcare settings. Health and social care service providers in Manitoba may require training to increase their information and skills that prepare them to adequately support 2SGBQ+ men in healthcare contexts.

### Strengths and Limitations of This Study:

- To our knowledge this is the first study of Two-Spirit, gay, bisexual, and queer (2SGBQ+) men in Manitoba, Canada
- We used logistic regression analysis to examine the association between socio-demographics, discrimination in healthcare, perceived health practitioner's competence regarding issues affecting 2SGBQ+ men, and healthcare access among a sample of 368 2SGBQ+ men in Manitoba.
- In terms of limitations, the data relied on cross-section survey design, which presents issues with establishing directionality of findings

**Competing interests:** The authors have no competing interests to disclose.

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**Contributors:** All authors participated in discussions about the data source and planning of the analyses, and critically revised successive versions of the paper. RS conceived the study, and drafted the first version of the manuscript. The first six co-authors were involved in data analysis. All co-authors were involved in the interpretation of results and drafting various components of the manuscript.

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## Introduction

Cis- and transgender Two-Spirit, gay, bisexual, queer, and other men who have sex with men (2SGBQ+) in Manitoba (one of Canada's Prairie provinces) remain vulnerable populations for a variety of health disparities. Very limited research is available about 2SGBQ+ men's healthcare access in Manitoba. To supplement this gap in knowledge this study examined socio-demographic and socio-ecological factors associated with healthcare access among 2SGBQ+ men in Manitoba.

### *Health Disparities & Access Barriers*

2SGBQ+ men disproportionately experience poorer levels of physical, sexual, and mental health, as well as significant barriers to healthcare access.<sup>1-22</sup> Both Canadian and international research has shown that experiences of marginalization and discrimination are associated with negative health outcomes and healthcare access.<sup>7-9, 23-28</sup>

Research on healthcare access among Two-Spirit, lesbian, gay, bisexual, transgender, queer, intersex, and asexual (2SLGBTQIA+) and other sexual and gender minority populations suggests that these communities have unique health needs that may not be met by existing health care services.<sup>29,30</sup> Some of these barriers include health care professionals' lack of competence and knowledge of 2SLGBTQIA+ persons' health care needs, as well as negative attitudes towards 2SLGBTQIA+ people.<sup>31-34</sup> 2SLGBTQIA+ people may also be reluctant to disclose their sexual orientation, which may lead to them receiving inadequate care.<sup>33,34</sup>

When it comes to 2SGBQ+ men, research demonstrates that they also experience systematic marginalization and discrimination in health and social care contexts.<sup>1,35-40</sup> Many 2SGBQ+ men will avoid healthcare settings they do not feel safe in, and are far more likely to access 2SGBQ-specific services for support with their healthcare needs.<sup>35-40</sup> 2SGBQ+ men are also more likely than heterosexual men to consult a family doctor and mental health provider, report unmet health care needs, and experience sexual orientation stigma within primary care.<sup>41-44</sup>

Furthermore, healthcare access may be affected by 2SGBQ+ men's socio-demographic and socio-ecological factors, including education and income level, ethnicity, pre-existing health status, or geographic locations.<sup>1,37-39,45</sup> With regards to geography, most studies of 2SGBQ+ men have historically been conducted in urban centers due to ease of access to high concentrations of these populations in urban settings. Research suggests that rural areas may be less hospitable to 2SLGBTQIA+ people, due to increased stigma and social isolation in rural areas.<sup>46</sup> While disclosure of sexual orientation or identity in rural communities may increase access to 2SLGBTQIA+-appropriate social support and healthcare, this may also increase the risk of discrimination and stigma.<sup>46</sup>

Other barriers to care documented in the research include the lack of advertisement of sexuality and gender-affirming providers, gaps in coverage, cost-related hurdles, poor treatment from health care providers, as well as a lack of competency and the presence of negative attitudes from health-care providers related to serving this population.<sup>47-49</sup> Understanding these barriers and the additional health risks they impose is crucial to improving the health and wellbeing of 2SGBQ+ men. The distinct use of or access to services documented in Canadian and international literature indicates the need for a closer examination of the experiences of Manitoban 2SGBQ+ men when it comes to healthcare access.

### *Indicators of Healthcare Access*

Access to a health-care provider is commonly measured by assessing whether an individual has had a healthcare visit in the past 12 months.<sup>38</sup> Research from the United States suggests that 27% of gay male adults report either no annual visits or a minimum of one instance of healthcare access.<sup>38</sup> However, using annual visits as an indicator of healthcare access for 2SGBQ+ men in Manitoba is

1 limited, as this measure does not take into account whether the individual has one provider they  
2 consider their regular source of health care. Having one provider that acts as a regular care provider  
3 may be a more useful indicator to healthcare access, as this definition implies both continuity and  
4 coordination of primary care.<sup>38,50,51</sup> Therefore, access to regular healthcare providers is another  
5 component of healthcare access. Research consistently shows that having access to a healthcare  
6 provider or access to regular healthcare facilities where individuals can receive regular care is associated  
7 with better health outcomes, fewer health disparities, and lower healthcare costs.<sup>52</sup> Therefore, this  
8 study assessed two indicators of healthcare access for 2SGBQ+ men, including their access to regular  
9 healthcare providers and their visits to healthcare providers in the past 12 months.  
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## 12 **Theoretical Frameworks**

13 This study approaches the healthcare access of 2SGBQ+ men in Manitoba as a multi-level  
14 challenge, requiring an understanding of a variety of factors at individual, social, and structural  
15 levels.<sup>4,53</sup> Socio-ecological systems theory<sup>54,55</sup> provides a framework to examine this population's  
16 healthcare access within the context of individual and socio-structural levels.  
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## 19 **The Current Study**

20 Previous research has established a relationship between healthcare access and discrimination,  
21 primarily among 2SGBQ+ men in other Canadian provinces.<sup>1,3,9,10,17,44</sup> Similarly, other studies have  
22 identified sociodemographics and discrimination as potentially important variables in understanding  
23 health-related practices among 2SGBQ+ men.<sup>1,37-39,45</sup> Little is known about which demographics and  
24 socio-ecological factors associated with having a regular healthcare provider or a healthcare provider  
25 in the past 12 months. The present study is the first study in Manitoba which sought to address this  
26 gap in knowledge. We hypothesize that demographic and socio-ecological factors (discrimination in  
27 healthcare and perceived health practitioner's competence and knowledge of 2SGBQ+ men's health  
28 issues) will be associated with healthcare access challenges (measured as having regular healthcare  
29 provider vs. not, and having had a healthcare visit in the past 12 months vs. not) for 2SGBQ+ men  
30 in Manitoba. The research question for this study is the following: For 2SGBQ+ men in Manitoba,  
31 what socio-demographics and socio-ecological factors are associated with: 1) having a regular  
32 healthcare provider, and 2) having had a healthcare visit in the past 12 months.  
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## 36 **Methodology**

### 37 *Study Design*

38 The data used in this paper were collected through a cross-sectional online survey method as part of  
39 the quantitative phase of the Manitoba Two-Spirit, Gay, Bisexual, and Queer Men's Health Study  
40 ([www.manitobamenshealthstudy.com](http://www.manitobamenshealthstudy.com)). The study was a community-based research study designed to  
41 examine the health and well-being of 2SGBQ+ men and their access to healthcare in Manitoba. The  
42 study was conducted in collaboration with a community advisory committee (CAC) and the research  
43 team. The research team consisted of members connected to HIV/AIDS, sexual health, and  
44 2SLGBTQI+ community-based organizations (CBO). These organizations worked hand in hand with  
45 our team throughout this research project. The CAC consisted of 5 2SGBQ+ men, representing  
46 diverse 2SGBQ+ communities and assisted the research team with the development of the survey,  
47 recruitment, and data analysis.  
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### 51 *Recruitment, Sampling, and Eligibility*

52 Participants (n = 368) for the online survey were recruited across Manitoba, using printed flyers (*Figure*  
53 *1*) at CBOs, word of mouth, and through Facebook. CBOs also helped in recruiting 2SGBQ+ men  
54 with diverse characteristics and from harder to reach populations, such as Two-Spirit and Indigenous  
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1 GBQ+ men, racialized 2SGBQ+ men, young adult 2SGBQ+ men, 2SGBQ+ men living in rural  
2 settings, and 2SGBQ+ men living with HIV. Therefore, a large sample of 368 2SGBQ+ men for the  
3 online survey was needed as participants were selected based on these socio-demographics. Eligibility  
4 included: 1) identify as a man (cisgender or transgender), 2) report any sex with another man in the  
5 previous 12 months or identify as Two-Spirit, gay, bisexual, or queer, 3) be 18 years of age or older,  
6 4) live or work in Manitoba. All participants were engaged in informed consent prior to beginning the  
7 study. All data were kept confidential. Survey participants were compensated \$20(CAD). All  
8 procedures were approved by the University of Manitoba Research Ethics Boards.  
9

### 11 *Measures*

12 The online survey included questions on demographics, socio-structural determinants of health,  
13 experiences of discrimination, health practitioner's competence and knowledge of 2SGBQ+ men's  
14 health issues, and access to healthcare in Manitoba.  
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17 *Demographics.* Socio-demographics measures included: 1) age; 2) race/ethnicity (Black, African,  
18 Caribbean, east/southeast Asian, First Nations, Métis, Latino, Latin American, white/Caucasian –  
19 western European, white/Caucasian – eastern European); 3) sexual orientation identity (gay, bisexual,  
20 queer, other); 4) household income (\$0-29,999, \$30,000-59,999, \$60,000-100,000, \$100,000+); 5)  
21 highest level of education completed (completed high school, bachelor's degree, graduate degree); 6)  
22 geographic region where participants lived (large urban centre, medium city/town, small city/town,  
23 smaller city/town, rural area close to city, rural and remote area, on-reserve).  
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25  
26 *Experiences of Discrimination in Healthcare.* To understand experiences of discrimination in healthcare, we  
27 asked participants: "Over the past two years have you experienced discrimination in healthcare  
28 settings?" (response options included: "yes", "no"). Discrimination was operationalized in the survey  
29 as being treated badly or unfairly, denied equal treatment or services, verbally harassed or disrespected,  
30 or physically assaulted or attacked.  
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33 *Perceived Health Practitioner's 2SGBQ+ Competence & Knowledge.* To measure respondents' perceptions of  
34 their healthcare provider's competence and knowledge of health issues affecting 2SGBQ+ men, we  
35 asked participants: "How would you evaluate your doctor's (or other health practitioner's) competence  
36 and knowledge of issues affecting 2SGBQ+ men's health?" Responses included: very good, good, fair,  
37 poor, very poor.  
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39  
40 *Healthcare Access Variables.* The following two outcome indicators of healthcare access were chosen in  
41 this analysis: 1) whether an individual has had a healthcare visit in the past 12 months, and 2) whether  
42 they had regular access to healthcare providers. First, to assess if participants had visited healthcare  
43 providers in the past 12 months, we asked participants: "In the past 12 months have you seen a  
44 healthcare provider/professional about your health?" (responses included: "yes", "no"). To establish  
45 if participants had a regular healthcare provider/family doctor, we asked: "Do you have a regular  
46 family doctor or health practitioner?" ("yes", "no").  
47

### 48 **Data Analyses**

49 All data analyses were conducted using SPSS 27 (IBM Corp. 2020). First, descriptive analyses and tests  
50 were conducted. Second, bivariate analyses were conducted using Chi-Square tests for categorical  
51 variables, as well as t-tests for continuous variables. After significant associations were identified in  
52 bivariate tests, multivariable analyses were conducted using binary logistic regression with reported  
53 odds ratios, and 95% confidence intervals. The first logistic regression analysis was used to examine  
54 the relationship between having a regular healthcare provider versus not (outcome/dependent  
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variable), socio-demographics (age, ethnicity, education, household income, sexual orientation identity, geographic location), and socio-ecological factors (discrimination, competence/knowledge). The second logistic regression analysis was used to examine the relationship between the healthcare visit in the past 12 months versus not (outcome/dependent variable), and socio-demographics and socio-ecological/structural factors as in the first logistic model. In the logistic regression model variables were entered using two blocks. In block one, the socio-demographic variables were entered. In block two, the theoretical variable of interest (such as experiences of healthcare discrimination and health practitioner's knowledge and competence) was entered.

## Results

### *Participant Characteristics and Descriptive Data*

Demographics (participant characteristics) and descriptive data on healthcare access are presented in Table 1. The mean age was 32.5 years ( $SD = 8.4$ ).

### *Bivariate Analyses*

In the bivariate analysis, there was a significant association between having a regular family doctor/healthcare provider and the geographic area where participants lived ( $\chi^2 = 43.32$ ,  $df = 6$ ,  $p = .001$ ), such that participants who reported living in Winnipeg (large urban centre) were also more likely to report having a regular family doctor/healthcare provider. No other demographic variables emerged as significant. The relationship between having a regular doctor/healthcare provider and experiences of discrimination was approaching significance ( $\chi^2 = 9.25$ ,  $df = 4$ ,  $p = .055$ ), where 2SGBQ+ men who reported discrimination also were more likely to report not having a regular provider. Finally, there was a significant association between having a healthcare visit in the past 12 months and healthcare providers' competence/knowledge of 2SGBQ+ men's issues ( $\chi^2 = 18.95$ ,  $df = 4$ ,  $p = .001$ ), where participants who indicated healthcare providers' competence/knowledge of 2SGBQ+ men's issues as "very good" and "good" were more likely to have access to regular healthcare providers/doctors.

Furthermore, in the bivariate analysis, there was a significant association between having a healthcare visit in the past 12 months and sexual orientation identity ( $\chi^2 = 18.50$ ,  $df = 3$ ,  $p = .001$ ), such that participants who self-identified as bisexual were more likely to have had a healthcare visit in the past 12 months. The relationship between having a healthcare visit in the past 12 months and the geographic area where participants lived also emerged as significant ( $\chi^2 = 54.07$ ,  $df = 6$ ,  $p = .001$ ), with people who lived in Brandon (medium sized city with a population under 50,000) were less likely to have had a healthcare visit in the past 12 months compared to those 2SGBQ+ men who lived in Winnipeg. No other demographic variables emerged as significant. Finally, a significant association was found between having a healthcare visit in the past 12 months and perceptions of healthcare providers' competence/knowledge of 2SGBQ+ men's issues ( $\chi^2 = 24.89$ ,  $df = 4$ ,  $p = .001$ ), where participants who indicated healthcare providers' competence/knowledge of 2SGBQ+ men's issues as "very good" and "good" were more likely to have seen a healthcare provider in the past 12 months.

### *Multivariate Analyses*

#### *Logistic Regression Modelling*

1 The results of the logistic analysis revealed a significant logistic regression model for access to regular  
2 doctor/healthcare provider for this sample of 2SGBQ+ men in Manitoba ( $\chi^2 = 57.24, p < .001$ ). This  
3 model had a very good fit with the sample data ( $-2 \text{ Log Likelihood} = 275.94$ , Hosmer and Lemeshow  
4 Chi-square test of goodness-of-fit,  $\chi^2 = 9.08, p > .05$ , Nagelkerke  $R^2 = 0.26$ ). The model successfully  
5 predicted 79.4% of the cases. The results of this logistic analysis also revealed a significant logistic  
6 regression model for having a healthcare visit in the past 12 months for this sample of 2SGBQ+ men  
7 in Manitoba ( $\chi^2 = 88.24, p < .001$ ). This model had a very good fit with the sample data ( $-2 \text{ Log}$   
8  $\text{Likelihood} = 199.07$ , Hosmer and Lemeshow chi-square test of goodness-of-fit,  $\chi^2 = 6.80, p > .05$ ,  
9 Nagelkerke  $R^2 = 0.42$ ). This model successfully predicted 86.9% of the cases. No interactions emerged  
10 as significant. The results of the logistic regression analyses are presented in Tables 2 and 3.  
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### 13 *Factors Associated with Access to Regular Healthcare Providers and Healthcare Visits in The Past 12 Months*

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15  
16 The results of the first logistic regression analyses revealed the significant association between the  
17 geographic area where participants lived, healthcare providers' competence/knowledge of 2SGBQ+  
18 men's issues and access to regular doctor/healthcare provider (see Table 2). Specifically, participants  
19 who lived in Brandon (a medium size town of 30,000–49,000 people in Manitoba) compared to  
20 Winnipeg were significantly less likely to have access to a regular doctor/healthcare provider ( $AOR$   
21  $= .08, S.E. = 0.52, 95\% \text{ CI} = 0.03 - 0.22, p = 0.001$ ). In addition, compared to those who lived in  
22 Winnipeg, participants who lived in small cities with 15,000–29,999 people ( $AOR = .20, S.E. = 0.82,$   
23  $95\% \text{ CI} = 0.04 - 0.98, p = 0.05$ ) and smaller towns with 1,000–14,999 people ( $AOR = .26, S.E. = 0.57,$   
24  $95\% \text{ CI} = 0.08 - 0.81, p = 0.05$ ) were less likely to have access to regular healthcare providers. No  
25 other demographics emerged as significant. Compared to 2SGBQ+ men who indicated their  
26 healthcare providers' competence/knowledge of 2SGBQ+ men's issues as "very good", those  
27 participants who indicated their healthcare providers' competence/knowledge as "poor" ( $AOR = .19,$   
28  $S.E. = 0.80, 95\% \text{ CI} = 0.04 - 0.90, p = 0.05$ ) and "very poor" ( $AOR = .03, S.E. = 0.11, 95\% \text{ CI} = 0.03$   
29  $- 0.25, p = 0.001$ ) were less likely to have access to regular doctor/healthcare provider.  
30  
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32  
33 The results of the second logistic regression analyses revealed the significant association between the  
34 geographic area where participants lived, sexual orientation identity and having a healthcare visit in  
35 the past 12 months (see Table 3). Specifically, compared to 2SGBQ+ men who lived in Winnipeg,  
36 participants who lived in Brandon, a medium size town of 30,000–50,000 people ( $AOR = .05, S.E. =$   
37  $0.62, 95\% \text{ CI} = 0.02 - 0.17, p = 0.001$ ) and smaller towns of 1,000–14,999 people ( $AOR = .25, S.E. =$   
38  $0.66, 95\% \text{ CI} = 0.67 - 0.90, p = 0.05$ ) were significantly less likely to have access to have had a  
39 healthcare visit in the past 12 months. Finally, participants who self-identified as bisexual were more  
40 likely to report having had a healthcare visit in the past 12 months compared to participants who self-  
41 identified as gay ( $AOR = 12.57, S.E. = 0.97, 95\% \text{ CI} = 1.88 - 83.97, p = .005$ ).  
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## 45 **Discussion**

46  
47 This study explored factors associated with healthcare access among 2SGBQ+ men in Manitoba, an  
48 understudied population in Canada. Notably, we found that 65.3% of the sample reported  
49 experiencing discrimination in healthcare settings in Manitoba. Furthermore, 28.7% of the sample  
50 reported not having a regular healthcare provider, and 20.8% have not seen a healthcare provider  
51 about their health in the past 12 months.  
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54 This study showed an association between socio-demographic, socio-ecological factors, and indicators  
55 of healthcare access among a sample of 2SGBQ+ men in Manitoba. First this study found a significant  
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1 association between the geographic area where participants lived, healthcare providers' competence  
2 and knowledge of 2SGBQ+ men's issues and access to a regular doctor/healthcare provider.  
3 Compared to participants who lived in Winnipeg, those that lived in Brandon and smaller towns in  
4 Manitoba were significantly less likely to report having a regular doctor/healthcare provider.  
5 Furthermore, compared to 2SGBQ+ men who indicated their healthcare providers'  
6 competence/knowledge of 2SGBQ+ men's issues as "very good", those participants who indicated  
7 their healthcare providers' competence/knowledge as "poor" and "very poor" were less likely to  
8 report having a regular doctor/healthcare provider.  
9

10  
11 Secondly, our study revealed the significant association between the geographic area where  
12 participants lived, sexual orientation identity and having a healthcare visit in the past 12 months.  
13 Compared to 2SGBQ+ men who lived in Winnipeg, participants who lived in Brandon, and other  
14 smaller cities/towns were significantly less likely to have had a healthcare visit in the past 12 months.  
15 Furthermore, participants who self-identified as bisexual were more likely to report having had a  
16 healthcare visit in the past 12 months compared to gay-identified participants.  
17  
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19 This study is also not without limitations. First, this study relies on self-reported data and are subject  
20 to social desirability, recall, and information bias. Secondly, the data relied on cross-section survey  
21 design, which presents issues with establishing directionality of findings. Nevertheless, the findings  
22 from this research are consistent with other literature on this topic. Similar to other research,<sup>52</sup> our  
23 findings contribute to a socio-ecological understanding of healthcare barriers and underscore the  
24 importance of attending to socio-demographic and socio-ecological/structural factors. This study's  
25 findings point to sociodemographic (geographic area where participants lived, sexual orientation  
26 identity) and socio-ecological/structural factors (healthcare providers competence and knowledge of  
27 2SGBQ+ men's health issues) that are associated with indicators of healthcare access.  
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30 With regards to geographic location and access to healthcare our findings indicated that healthcare  
31 access is an issue for participants who lived in Brandon and other smaller cities and towns in Manitoba.  
32 This finding is consistent with previous research,<sup>46,56</sup> which suggests that stigma and social isolation  
33 in smaller, remote, and rural areas may be at play when it comes to individuals' access to healthcare.  
34 Though no data exists thus far on 2SGBQ+ men who live in Brandon or smaller towns in Manitoba,  
35 at first glance rural areas appear less hospitable to 2SGBQ+ men. This is the first study in Manitoba  
36 to point in this direction. Given the geographic isolation of northern and remote communities in  
37 Manitoba, 2SGBQ+ men may also face a complex set of barriers to health care that includes  
38 geography, lack of trust, lack of transportation, as well as lower number of healthcare providers in  
39 these areas. All of these factors may explain our findings which indicate that healthcare access is an  
40 issue for participants who lived in Brandon and other smaller cities and towns in Manitoba. Future  
41 research needs to elucidate the impacts of sexuality and/or gender-minority stigma on 2SGBQ+ men's  
42 access in smaller and remote towns in Manitoba. It is important to reduce the gap between the  
43 healthcare access of rural and urban 2SGBQ+ men. The availability of services for sexual and gender  
44 minority people in Brandon and other smaller communities (where 2SGBQ+ men may feel more  
45 stigmatized) is also an issue that needs to be brought to the attention of provincial and territorial health  
46 care. Furthermore, creation of anti-discriminatory health policies at the governmental and institutional  
47 level to facilitate the development of equitable and accessible health services for 2SGBQ+ men in  
48 Manitoba is urgently needed.  
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53 Our findings are also consistent with the line of research which shows that healthcare providers'  
54 competence and knowledge of issues affecting 2SGBQ+ men are closely associated with healthcare  
55 access and utilization.<sup>57-59</sup> These findings underscore the importance of addressing healthcare  
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1 providers lack of knowledge or cultural competence in healthcare settings as it may act as a barrier to  
2 healthcare. Various elements can improve or facilitate 2SGBQ+ men's health care, including: the  
3 creation of a safe, 2SGBQ-affirming space free from violence and discrimination that 2SGBQ+ men  
4 frequently face; the development of trust in relationships and respect of privacy during service delivery;  
5 the use of outreach services to 2SGBQ+ men's communities; and the provision of culturally  
6 competent care and referrals.<sup>57,58</sup> Mayer and colleagues<sup>59</sup> work on integrated comprehensive care for  
7 sexual and gender minority men emphasizes culturally competent care based in human rights  
8 principles and stresses the importance of gathering the appropriate information to be able to provide  
9 care and make referrals and developing a strong rapport with 2SGBQ+ men in order to maintain a  
10 regular access to healthcare. Given the findings on the differences between gay and bisexual men,  
11 health and social care service providers may also require training and opportunities to increase  
12 information and skills to prepare them to adequately support gay-identified men in healthcare  
13 contexts.  
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16  
17 The findings from this study also paint a picture where bisexual men were more likely to report having  
18 had a healthcare visit in the past 12 months compared to participants who self-identified as gay.  
19 Although some scholarship suggested that gay and bisexual men do not differ significantly from one  
20 another in terms of health practices,<sup>60</sup> other research pointed out differences between gay and  
21 bisexual-identified men.<sup>61</sup> This finding adds to the knowledge base on the differences between bisexual  
22 and gay-identified men.<sup>62</sup> While some research shows that bisexual men experience more  
23 marginalization in healthcare compared to gay men,<sup>62</sup> our study presented a different picture. Given  
24 that health services are typically culturally insensitive toward the needs of gay men (coupled with  
25 concerns about homophobia), this may discourage some sexual minority people from identifying as  
26 gay (as opposed to bisexual) in order to avoid the associated stigma. It is therefore essential for future  
27 research to explore how the social context toward gay and bisexual men (in mainstream communities  
28 and society at large) increases gay men's invisibility and further decreases health access and uptake for  
29 gay men.  
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33 Importantly, our findings did not show an association between discrimination in healthcare and access  
34 to healthcare among a sample of 2SGBQ+ men in Manitoba, after controlling for socio-  
35 demographics. This area of inquiry highlights important results by suggesting that a relationship  
36 between discrimination and its effects on healthcare access among 2SGBQ+ men may be more  
37 complex than previously theorized, particularly in Western contexts such as Canada. Future research  
38 needs to further explore the relationship between these variables.  
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41 The demographic and socio-ecological factors identified in this study may influence 2SGBQ+ men's  
42 current and future engagement with healthcare. Strategies which attend to these factors can help  
43 mitigate negative experiences among 2SGBQ+ men in healthcare settings, ensure access to services,  
44 and create affirming health care environments that support 2SGBQ+ men in maintaining their health.  
45 There must also be recognition of the unique and specific health and well-being issues affecting  
46 2SGBQ+ men in Manitoba. This recognition should be substantiated with evidence and followed by  
47 implementation of funding, programming, and services, in which 2SGBQ+ men in Manitoba can be  
48 represented in health policy. Prioritizing 2SGBQ+ men in order to address their health and well-being  
49 concerns, the health care and social service systems in Manitoba must reshape how they provide  
50 service delivery. Broader society that needs to become knowledgeable and sensitized to these issues  
51 through education campaigns in order to improve access and combat homophobia, heterosexism,  
52 stigma and other forms of discrimination directed at 2SGBQ+ men in Manitoba.  
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## References

1. Michael, T., (2008). Health care use among gay, lesbian and bisexual Canadians.
2. Travis, S. H., Olivier, F., & Dionne, G., (2015). Suicide and HIV as leading causes of death among gay and bisexual men: a comparison of estimated mortality and published research.
3. Ross, L.E., Bauer, G.R., MacLeod, M.A., Robinson, M., MacKay, J. & Dobinson, C. (2014). Mental Health and Substance Use among Bisexual Youth and Non-Youth in Ontario, Canada.
4. Public Health Agency of Canada (2018). Summary: Estimates of HIV incidence, prevalence and Canada's progress on meeting the 90-90-90 HIV targets, 2016. Surveillance and Epidemiology Division. Professional Guidelines and Public Health Practice Division. Centre for Communicable Disease and Infection Control. Public Health Agency of Canada, 2018.
5. Manitoba HIV Program (2017). Manitoba HIV Program Report: 2016. Nine Circles Community Health Centre.
6. Yu, D., Hatala, A. R., Reimer, J., & Lorway, R. (2017). 'I'm more aware of my HIV risk than anything else': syndemics of syphilis and HIV among gay men in Winnipeg. *Culture, Health & Sexuality*, 1-13.
7. Winnipeg Regional Health Authority (WRHA). 2014. Outbreak of Infectious Syphilis in the Winnipeg Health Region. Winnipeg: Winnipeg Health Region Press.
8. Public Health Agency of Canada (2018). *Reducing the health impact of sexually transmitted and blood-borne infections in Canada by 2030: A pan-Canadian STBBI framework for action*. Centre for Communicable Diseases and Infection Control, Infectious Disease and Prevention and Control branch, Public Health Agency of Canada, 2018.
9. Brennan, D. J., Souleymanov, R., George, C., Newman, P. A., Hart, T. A., Asakura, K., & Betancourt, G. (2015). Masculinity, Muscularity, and HIV Sexual Risk Among Gay and Bisexual Men of Color. *Psychology of Men & Masculinity*, 16(4), 393-403.
10. Souleymanov, R., Brennan, D. J., George, C., Utama, R., & Ceranto, A. (2018). Experiences of racism, sexual objectification and alcohol use among gay and bisexual men of colour. *Ethnicity & Health*, 1-17.
11. Keogh, P., Henderson, L., & Dodds, C. (2004). Ethnic minority gay men: Redefining community, restoring identity. [https://www.researchgate.net/profile/Peter\\_Keogh/publication/237281085\\_Ethnic\\_Minority\\_Gay\\_Men\\_Redefining\\_Community\\_Restoring\\_Identity/links/00b7d527be6e40eb27000000.pdf](https://www.researchgate.net/profile/Peter_Keogh/publication/237281085_Ethnic_Minority_Gay_Men_Redefining_Community_Restoring_Identity/links/00b7d527be6e40eb27000000.pdf)
12. Wolitski, R. J., Stall, R., & Valdiserri, R. O. (Eds.). (2008). Unequal opportunity: health disparities affecting gay and bisexual men in the United States. Oxford University Press, USA.
13. Souleymanov, R. (March, 2017). Social workers at the frontiers of technology: Online-based HIV prevention and care for men who have sex with men. International Association of Schools of Social Work & Joint United Nations Program on HIV/AIDS. Geneva, Switzerland. <http://www.unaids.org/en/resources/documents/2017/global-social-work-responds-to-HIV>
14. Sandfort, T. G., de Graaf, R., & Bijl, R. V. (2003). Same-sex sexuality and quality of life: findings from the Netherlands Mental Health Survey and Incidence Study. *Archives of Sexual Behavior*, 32(1), 15-22.
15. Feldman, M. B., & Meyer, I. H. (2007). Childhood abuse and eating disorders in gay and bisexual men. *International Journal of Eating Disorders*, 40(5), 418-423.
16. Hart, T. A., Rotondi, N. K., Souleymanov, R., & Brennan, D. J. (2015). Psychometric properties of the Social Appearance Anxiety Scale among Canadian gay and bisexual men of color. *Psychology of Sexual Orientation and Gender Diversity*, 2(4), 470.
17. Brennan DJ, Ross LE, Dobinson C, Velhuizen S, Steele LS. (2010). Men's sexual orientation and health in Canada. *Canadian Journal of Public Health*, 101(3), 255-58.

18. De Graaf, R., Sandfort, T. G., & ten Have, M. (2006). Suicidality and sexual orientation: Differences between men and women in a general population-based sample from the Netherlands. *Archives of Sexual Behavior*, 35(3), 253-262.
19. Gilman, S. E., Cochran, S. D., Mays, V. M., Hughes, M., Ostrow, D., & Kessler, R. C. (2001). Risk of psychiatric disorders among individuals reporting same-sex sexual partners in the National Comorbidity Survey. *American Journal of Public Health*, 91(6), 933.
20. Sandfort, T. G., Bakker, F., Schellevis, F. G., & Vanwesenbeeck, I. (2006). Sexual orientation and mental and physical health status: findings from a Dutch population survey. *American journal of public health*, 96(6), 1119-1125.
21. Brennan, D. J., Hellerstedt, W. L., Ross, M. W., & Welles, S. L. (2007). History of childhood sexual abuse and HIV risk behaviors in homosexual and bisexual men. *American journal of public health*, 97(6), 1107-1112.
22. Newman, P. A., Rhodes, F., & Weiss, R. E. (2004). Correlates of sex trading among drug-using men who have sex with men. *American Journal of Public Health*, 94(11), 1998-2003.
23. Stall R, Mills TC, Williamson J, et al. (2003). Association of co-occurring psychosocial health problems and increased vulnerability to HIV/AIDS among urban men who have sex with men. *American Journal of Public Health*, 93(6), 939-942.
24. Dyer TP, Shoptaw S, Guadamuz TE, et al. (2012). Application of syndemic theory to black men who have sex with men in the Multicenter AIDS Cohort Study. *Journal of Urban Health*, 89(4), 697-708.
25. Singer, M., and S. Clair. 2003. "Syndemics and Public Health: Reconceptualizing Disease in Bio-Social Context." *Medical Anthropology Quarterly* 17 (4): 423-441.
26. Singer, M., P. Erickson, L. Badiane, R. Diaz, D. Ortiz, T. Abraham, and A. M. Nicolaysen. 2006. "Syndemics, Sex and the City: Understanding Sexually Transmitted Diseases in Social and Cultural Context." *Social Science & Medicine* 63 (8): 2010-2021.
27. Adam, B. D., Hart, T. A., Mohr, J., Coleman, T., & Vernon, J. (2017). HIV-related syndemic pathways and risk subjectivities among gay and bisexual men: a qualitative investigation. *Culture, health & sexuality*, 19(11), 1254-1267.
28. Hart, T. A., Noor, S. W., Adam, B. D., Vernon, J. R., Brennan, D. J., Gardner, S., ... & Myers, T. (2017). Number of psychosocial strengths predicts reduced HIV sexual risk behaviors above and beyond syndemic problems among Gay and Bisexual Men. *AIDS and Behavior*, 21(10), 3035-3046.
29. Lee R. Health care problems of lesbian, gay, bisexual, and transgender patients. *Western Journal of Medicine* 2000;172(6):403-8.
30. Mayer KH, Bradford JB, Makadon HJ, Stall R, Goldhammer H, Landers S. Sexual and gender minority health: what we know and what needs to be done. *American Journal of Public Health* 2008;98(6):989-95.
31. Institute of Medicine. *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washinton, DC: The National Academies Press; 2011.
32. Sanchez NF, Rabatin J, Sanchez JP, Hubbard S, Kalet A. Medical students' ability to care for lesbian, gay, bisexual, and transgendered patients. *Family Medicine* 2006;38(1):21-7.
33. Bergeron S, Senn CY. Health care utilization in a sample of Canadian lesbian women: Predictors of risk and resilience. *Women & Health* 2003;37(3):19-35.
34. Jackson NC, Johnson MJ, Roberts R. The potential impact of discrimination fears of older gays, lesbians, bisexuals and transgender individuals living in small- to moderate-sized cities on long-term health care. *Journal of Homosexuality* 2008;54(3):325-39.



- 1 35. Safren SA, Reisner SL, Herrick A, Mimiaga MJ, Stall R. (2010). Mental health and HIV risk in  
2 men who have sex with men. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 55  
3 Suppl 2, S74–7.
- 4 36. Halkitis PN, Perez-Figueroa RE, Carreiro T, et al. (2014). Psychosocial burdens negatively  
5 impact HIV antiretroviral adherence in gay, bisexual, and other men who have sex with men  
6 aged 50 and older. *AIDS care*, (ahead-of-print), 1-9.
- 7 37. Gee R. (2006). Primary care health issues among men who have sex with men. *Journal of the*  
8 *American Academy of Nurse Practitioners*, 18(4), 144-153.
- 9 38. McKirnan DJ, Du Bois SN, Alvy LM, Jones K. (2013). Health care access and health behaviors  
10 among men who have sex with men: The cost of health disparities. *Health Educ Behav*, 40,  
11 32-41.
- 12 39. Tjepkema M (2008). Health care use among gay, lesbian and bisexual Canadians. *Health Rep*,  
13 19, 53- 64.
- 14 40. Müller, A. (2016). Health for All? Sexual Orientation, Gender Identity, and the  
15 Implementation of the Right to Access to Health Care in South Africa. *Health and human*  
16 *rights*, 18(2), 195.
- 17 41. Statistics Canada. Canadian Community Health Survey (CCHS) - Detailed information for  
18 2005 (Cycle 3.1). Available at: [http://www.statcan.gc.ca/cgi-](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=0&InstaId=15282&InstaVer=3&SDDS=3226&lang=en&db=imdb&adm=8&dis=2)  
19 [bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvV](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=0&InstaId=15282&InstaVer=3&SDDS=3226&lang=en&db=imdb&adm=8&dis=2)  
20 [er=0&InstaId=15282&InstaV](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=0&InstaId=15282&InstaVer=3&SDDS=3226&lang=en&db=imdb&adm=8&dis=2)  
21 [er=3&SDDS=3226&lang=en&db=imdb&adm=8&dis=2](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=0&InstaId=15282&InstaVer=3&SDDS=3226&lang=en&db=imdb&adm=8&dis=2).  
22 (Accessed on: June 15, 2010).
- 23 42. Statistics Canada Canadian Community Health Survey (CCHS) - Detailed information for  
24 2007 (Cycle 4.1). Available at: [http://www.statcan.gc.ca/cgi-](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=1&InstaId=15282&InstaVer=4&SDDS=3226&lang=en&db=imdb&adm=8&dis=2)  
25 [bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvV](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=1&InstaId=15282&InstaVer=4&SDDS=3226&lang=en&db=imdb&adm=8&dis=2)  
26 [er=1&InstaId=15282&InstaV](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=1&InstaId=15282&InstaVer=4&SDDS=3226&lang=en&db=imdb&adm=8&dis=2)  
27 [er=4&SDDS=3226&lang=en&db=imdb&adm=8&dis=2](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=1&InstaId=15282&InstaVer=4&SDDS=3226&lang=en&db=imdb&adm=8&dis=2).
- 28 43. Petroll AE, Mosack KE. (2011). Physician awareness of sexual orientation and preventive  
29 health recommendations to men who have sex with men. *Sex Transm Dis*, 38, 63-67.
- 30 44. Ng B, Moore DM, Michelow W, et al. (2014). Relationship between disclosure of same sex  
31 sexual activity to providers, HIV diagnosis and sexual health services for men who have sex  
32 with men (MSM) in Vancouver, Canada. *Can J Public Health*, 105(3), e186-e191.
- 33 45. Shari, B., Bill, R., Yves, J., & Bill R., (2002) Reclaiming Space-Regaining Health, *Journal of*  
34 *Gay & Lesbian Social Services*.
- 35 46. Swank E, Fahs B, Frost DM. Region, social identities, and disclosure practices as predictors  
36 of heterosexist discrimination against sexual minorities in the United States. *Sociological*  
37 *Inquiry*. 2013 May;83(2):238-58.
- 38 47. Kates, J, Ranji, U, Beamesderfer, A, Salganicoff, A & Dawson, L 2015, 'Health and Access to  
39 Care and Coverage for Lesbian, Gay, Bisexual, and Transgender Individuals in the U.S.', The  
40 Henry J. Kaiser Family Foundation.
- 41 48. Blondeel, K, Say, L, Chou, D, Toskin, I, Khosla, R, Scolaro, E & Temmerman M 2016,  
42 'Evidence and knowledge gaps on the disease burden in sexual and gender minorities: a review  
43 of systematic reviews', *International Journal for Equity in Health*, vol. 15, no. 16.
- 44 49. Blondeel, K, Say, L, Chou, D, Toskin, I, Khosla, R, Scolaro, E & Temmerman M 2016,  
45 'Evidence and knowledge gaps on the disease burden in sexual and gender minorities: a review  
46 of systematic reviews', *International Journal for Equity in Health*, vol. 15, no. 16.
- 47 50. Alvy, L. M., McKirnan, D., Du Bois, S. N., Jones, K., Ritchie, N., & Fingerhut, D. (2011).  
48 Health care disparities and behavioral health among men who have sex with men. *Journal of*  
49 *Gay Lesbian Social Services*, 23(4), 507–522.
- 50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

- 1 51. Austin, A., Herrick, H., & Proescholdbell, S. (2016). Adverse childhood experiences related to  
2 poor adult health among lesbian, gay, and bisexual individuals. *American Journal of Public*  
3 *Health*, 106(2), 314–320.
- 4 52. Lacombe-Duncan, A., Logie, C. H., Li, J., Mitchell, B., Williams, D., & Levermore, K. (2021).  
5 Social-ecological factors associated with having a regular healthcare provider among lesbian,  
6 gay, bisexual and transgender persons in Jamaica. *Global Public Health*, 1-14.
- 7 53. Shields, S. A. (2008). Gender: An intersectionality perspective. *Sex Roles*, 59(5-6), 301-311.
- 8 54. Bronfenbrenner, U. (1994). Ecological models of human development. *International*  
9 *encyclopedia of education*, 3(2), 37-43.
- 10 55. Siporin, M. (1980). Ecological systems theory in social work. *Journal of Sociology and Social*  
11 *Welfare*, 7, 507-532.
- 12 56. Whitehead, J., Shaver, J., & Stephenson, R. (2016). Outness, stigma, and primary health care  
13 utilization among rural LGBT populations. *PloS one*, 11(1), e0146139.
- 14 57. Brotman S, Ryan B, Jalbert Y, Rowe B. The impact of coming out on health and health care  
15 access: the experiences of gay, lesbian, bisexu-al and two-spirit people. *Journal of Health &*  
16 *Social Policy* 2002;15(1):1-29.
- 17 58. Dodge B, Schnarrs PW, Goncalves G, Malebranche D, Martinez O, Reece M et al. The  
18 significance of privacy and trust in providing health-related services to behavior-ally bisexual  
19 men in the United States. *AIDS Education & Preven-tion* 2012;24(3):242-56.
- 20 59. Mayer KH, Bekker LG, Stall R, Gru-lich AE, Colfax G, Lama JR. Compre-hensive clinical  
21 care for men who have sex with men: an integrated approach. [Review]. *The Lancet* 2012  
22 28;380(9839):378-87.
- 23 60. Klein H. Differences in HIV risk practices sought by self-identified gay and bisexual men  
24 who use Internet websites to identify potential sexual partners. *Journal of Bisexuality*. 2009  
25 Jun 8;9(2):125-40.
- 26 61. Phillips, G., Kalmin, M. M., Turner, B., Felt, D., Marro, R., Salamanca, P., & Beach, L.  
27 B.(2018). Condom and substance use at last sex: Differences between MSMO and MSWO  
28 high school youth. *International Journal of Environmental Research and Public*  
29 *Health*,15(5), 995. doi: 10.3390/ijerph1505
- 30 62. Souleymanov R, Fantus S, Lachowsky N, Brennan DJ, Ceranto A. How bisexual-identified  
31 men use the Internet to seek sex with other men in Ontario: Factors associated with  
32 HIV/STI testing and condom use. *Journal of Bisexuality*. 2018 Oct 2;18(4):497-515.
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Figure 1. Recruitment Flyer.

**MANITOBA**  
TWO-SPIRIT, GAY,  
BISEXUAL  
& QUEER  
MEN'S HEALTH  
**STUDY**

**Two-Spirit?  
Gay? Bisexual?  
Queer? Straight?**

Having Sex with Guys?  
18 years of age or older?

We are interested in your experiences.

You will receive **\$20** upon  
completion of the survey.

**manitobamenshealthstudy.com**

**For more information:**  
menshealthstudy@umanitoba.ca

The **Manitoba Two-Spirit, Gay,  
Bisexual, and Queer Men's  
Health Study** survey is focused  
on guys' sexual, physical, and  
mental health, and their  
experiences of discrimination.

Participation is CONFIDENTIAL.

In collaboration with:

Table 1. Socio-demographic Characteristics &amp; Descriptive Findings

Characteristic	Frequency (n)	Percentage (%)
<i>Ethnicity</i>		
White – Western European	145	38.4
White – Eastern European	68	18.0
Black, African, Caribbean	41	10.8
First Nations	40	10.6
Métis	30	7.9
East/South East Asian	29	7.7
Latino, Latin American	25	6.6
<i>Sexual Orientation</i>		
Gay	276	70.1
Bisexual	68	17.3
Queer	39	9.9
Other	11	2.8
<i>Household Income (CDN \$)</i>		
0-29,999	96	24.4
30,000-59,999	77	19.6
60,000-100,000	135	34.4
100,000+	85	21.6
<i>Highest Education Level Completed</i>		
Completed High School	99	24.9
Bachelor's Degree	271	68.3
Graduate Degree	27	6.8
<i>Regions Where Participants Lived</i>		
Large urban centre/Winnipeg (50,000+)	249	61.5
Medium city/town/Brandon (30,000-49,000 people)	54	13.3
Small city/town (15,000-29,999)	20	4.9
Smaller city/town (1,000-14,999)	34	8.4
Rural area close to a city (<1,000)	28	6.9
Rural and remote area (<1,000)	10	2.5
On-reserve	10	2.5
<i>Experienced Discrimination in Healthcare</i>		
Yes	224	65.3
No	119	34.7
<i>Doctor's/Healthcare Practitioner's Competence with 2SGBQ+</i>		
Very good	66	18.2
Good	91	25.1
Fair	116	32.0
Poor	27	7.5
Very poor	12	3.3
Don't know	50	13.8
<i>Has Regular Family Doctor/Healthcare Provider</i>		
Yes	263	71.3
No	106	28.7
<i>Seen Healthcare Provider in the past 12 months</i>		
Yes	293	79.1
No	77	20.8

Note. Total numbers vary due to missing data.

Table 2. Multiple Logistic Regression of Socio-demographics, Healthcare Discrimination, and Healthcare Providers' 2SGBQ+ Competence on Access to Regular Doctor/Healthcare Provider Among 2SGBQ+ Men in Manitoba (N=368)

	<i>B</i>	<i>SE</i>	<i>AOR</i>	<i>95% CI</i>	<i>Wald statistic</i>
<b>Socio-demographic Variables</b>					
Age	0.38	0.32	1.04	[0.98, 1.11]	1.43
Race (ref = White/Western European)					
White/Eastern European	0.23	0.55	1.26	[0.42, 3.72]	0.17
Black, African, Caribbean	0.71	0.65	2.03	[0.57, 7.23]	1.20
First Nations	0.60	0.94	0.55	[0.09, 3.42]	0.42
Métis	0.08	0.84	1.09	[0.21, 5.57]	0.01
East & Southeast Asian	0.59	0.72	0.56	[0.14, 2.32]	0.62
Latino, Latin American	0.21	0.83	0.81	[0.16, 4.07]	0.68
Household income (ref = CDN\$<30,000)					
30,000-<59,999	-1.36	0.81	0.26	[0.53, 1.24]	2.86
60,000-99,999	-1.79	0.86	0.17	[0.31, 0.90]	4.35
100,000+	-1.99	0.91	1.14	[0.23, 0.80]	4.86
Education level (ref = completed high school)					
Bachelor's degree	0.53	0.60	1.70	[0.52, 5.50]	0.78
Graduate degree	1.70	1.06	5.46	[0.68, 43.50]	2.57
Sexual orientation (ref = gay/homosexual)					
Bisexual	1.23	0.68	3.42	[0.91, 12.90]	3.30
Queer	0.59	0.78	1.81	[0.40, 8.37]	0.58
Other (pansexual, asexual)	0.58	1.16	1.80	[0.19, 17.32]	0.26
<i>Geographic Area (ref = large urban centre/Winnipeg)</i>					
Medium city/town (30,000-49,000 people)	-2.52	0.51	<b>0.08**</b>	[0.03, 0.22]	23.6
Small city/town (15,000-29,999)	-1.61	0.82	<b>0.20*</b>	[0.04, 0.98]	3.92
Smaller city/town (1,000-14,999)	-1.34	0.57	<b>0.26*</b>	[0.09, 0.81]	5.45
Rural area close to a city (<1,000)	0.46	0.85	0.59	[0.30, 8.38]	0.30
Rural & remote area not close to a city (<1,000)	0.32	0.54	0.46	[0.33, 9.56]	0.10
On-reserve	-0.65	1.08	0.52	[0.06, 4.36]	0.36
<b>Socio-structural Variables</b>					
Discrimination in Healthcare	-0.40	0.49	0.67	[0.28, 1.74]	0.68
Healthcare Providers' 2SGBQ+ Competence (ref = very good)					
Good	-0.90	0.70	0.41	[0.10, 1.59]	1.67
Fair/Somewhat OK	-0.58	0.69	0.56	[0.14, 2.20]	0.69
Poor	-1.68	0.80	<b>0.19*</b>	[0.03, 0.90]	4.40
Very poor	-3.57	1.11	<b>0.03**</b>	[0.01, 0.25]	10.3

Note. SE = standard error; AOR = adjusted odds ratio; CI = confidence interval; Ref. = reference group.

\* $p < .05$ , \*\* $p < .001$ .

Table 3. Multiple Logistic Regression of Socio-demographics, Healthcare Discrimination, and Healthcare Providers' 2SGBQ+ Competence on Healthcare Visits in the Past 12 Months Among 2SGBQ+ Men in Manitoba (N=368)

	<i>B</i>	<i>SE</i>	<i>AOR</i>	<i>95% CI</i>	<i>Wald statistic</i>
<b>Socio-demographic Variables</b>					
Age	-0.01	0.03	0.99	[0.93, 1.07]	0.02
Race (ref = White/Western European)					
White/Eastern European	0.83	0.67	2.29	[0.62, 8.45]	1.54
Black, African, Caribbean	1.13	0.74	3.09	[0.72, 13.20]	2.31
First Nations	1.91	1.39	6.76	[0.44, 103.54]	1.88
Métis	2.20	1.22	8.99	[0.82, 98.33]	3.23
East & Southeast Asian	-0.87	0.72	0.42	[0.10, 1.71]	1.47
Latino, Latin American	-0.75	0.84	0.47	[0.09, 2.45]	0.80
Household income (ref = CDN\$<30,000)					
30,000-<59,999	2.12	1.03	8.30	[1.10, 62.86]	4.20
60,000-99,999	-0.10	0.71	0.90	[0.23, 3.61]	0.02
100,000+	0.19	0.60	1.20	[0.37, 3.90]	0.09
Education level (ref = completed high school)					
Bachelor's degree	0.82	0.70	2.27	[0.58, 8.90]	1.39
Graduate degree	0.71	1.02	2.03	[0.28, 14.82]	0.49
Sexual orientation (ref = gay/homosexual)					
Bisexual	2.53	0.97	<b>12.57*</b>	[1.88, 83.97]	6.83
Queer	0.46	0.93	1.58	[0.25, 9.91]	0.25
Other (pansexual, asexual)	1.27	1.47	0.28	[0.02, 5.06]	1.48
<i>Geographic Area (ref = large urban centre/Winnipeg)</i>					
Medium city/town (30,000-49,000 people)	-2.99	0.62	<b>0.05**</b>	[0.01, 0.17]	23.33
Small city/town (15,000-29,999)	-1.90	0.99	0.15	[0.02, 1.04]	3.68
Smaller city/town (1,000-14,999)	-1.41	0.66	<b>0.24*</b>	[0.07, 0.90]	4.48
Rural area close to a city (<1,000)	-1.32	0.69	0.26	[0.70, 1.05]	3.59
Rural & remote area not close to a city (<1,000)	-1.88	0.62	0.58	[0.33, 9.56]	1.10
On-reserve	-1.25	1.44	0.28	[0.02, 4.88]	0.74
<b>Socio-structural Variables</b>					
Discrimination in Healthcare	-0.02	0.59	0.98	[0.31, 3.10]	0.01
Healthcare Providers' 2SGBQ+ Competence (ref = very good)					
Good	-0.43	0.80	0.65	[0.13, 3.10]	0.29
Fair/Somewhat OK	-0.73	0.78	0.48	[0.10, 2.25]	0.86
Poor	-1.49	0.92	0.24	[0.04, 1.41]	2.50
Very poor	-1.19	1.17	0.31	[0.03, 3.07]	1.02

Note. SE = standard error; AOR = adjusted odds ratio; CI = confidence interval; Ref. = reference group. \*p < .05, \*\*p < .001.





Research Ethics  
and Compliance

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**PROTOCOL APPROVAL**

**TO: Rusty Souleymanov**  
Principal Investigator

**FROM: Jonathan Marotta, Chair**  
Psychology/Sociology Research Ethics Board (PSREB)

**Re: Protocol #P2019:027 (HS22318)**  
**An Examination of Health, HIV risks, HIV-related and Other Health and Social Care Programs and Services for Marginalized Gay, Bisexual, Two-Spirit, and Other Men Who Have Sex with Men in Manitoba**

**Effective:** March 18, 2019

**Expiry:** March 18, 2020

**Psychology/Sociology Research Ethics Board (PSREB)** has reviewed and approved the above research. PSREB is constituted and operates in accordance with the current *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*.

This approval is subject to the following conditions:

1. Approval is granted for the research and purposes described in the application only.
2. Any modification to the research or research materials must be submitted to PSREB for approval before implementation.
3. Any deviations to the research or adverse events must be submitted to PSREB as soon as possible.
4. This approval is valid for one year only and a Renewal Request must be submitted and approved by the above expiry date.
5. A Study Closure form must be submitted to PSREB when the research is complete or terminated.
6. The University of Manitoba may request to review research documentation from this project to demonstrate compliance with this approved protocol and the University of Manitoba *Ethics of Research Involving Humans*.

**Funded Protocols:**

- **Please mail/e-mail a copy of this Approval, identifying the related UM Project Number, to the Research Grants Officer in ORS.**

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For peer review only

**STROBE 2007 (v4) checklist of items to be included in reports of observational studies in epidemiology\***  
**Checklist for cohort, case-control, and cross-sectional studies (combined)**

Section/Topic	Item #	Recommendation	Reported on page #
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	2
<b>Introduction</b>			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4, 5
Objectives	3	State specific objectives, including any pre-specified hypotheses	5
<b>Methods</b>			
Study design	4	Present key elements of study design early in the paper	5,6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5,6
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants	5,6
		(b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —For matched studies, give matching criteria and the number of controls per case	N/A
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6
Bias	9	Describe any efforts to address potential sources of bias	7
Study size	10	Explain how the study size was arrived at	6
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6,7
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	6,7,8
		(b) Describe any methods used to examine subgroups and interactions	6,7,8
		(c) Explain how missing data were addressed	6,7
		(d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed	6,7,8

		<i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy	
		(e) Describe any sensitivity analyses	6,7
<b>Results</b>			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	7,17,18
		(b) Give reasons for non-participation at each stage	Not applicable (N/A)
		(c) Consider use of a flow diagram	N/A
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	16
		(b) Indicate number of participants with missing data for each variable of interest	16
		(c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)	N/A
Outcome data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time	N/A
		<i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure	N/A
		<i>Cross-sectional study</i> —Report numbers of outcome events or summary measures	17,18
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	7, 17,18
		(b) Report category boundaries when continuous variables were categorized	6,17,18
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	8
<b>Discussion</b>			
Key results	18	Summarise key results with reference to study objectives	8,9
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	9
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	9,10
Generalisability	21	Discuss the generalisability (external validity) of the study results	10
<b>Other information</b>			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	3

\*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at [www.strobe-statement.org](http://www.strobe-statement.org).