Health care access among transgender and non-binary people in Canada, 2019: A crosssectional survey

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ABSTRACT

Background: Drawing on the first national survey of trans and non-binary adolescents and adults in Canada, this study characterizes access to primary and gender-affirming care, and unmet health care need, by province or region.

Methods: Trans PULSE Canada was a bilingual, multi-mode, convenience sampling survey of trans and non-binary people aged 14 and above conducted from August to October 2019. Average marginal predictions for each province or region were estimated from multivariable logistic regression models to standardize for sociodemographics.

Results: 2217 trans and non-binary participants were included in these analyses. Most had a primary care provider (81.4%, 95% CI: 79.8 – 83.0), with model-predicted probabilities from 52.1% (95% CI: 20.2 – 84.1) in the Territories to 92.9% (95% CI: 83.5 – 100.0) in Newfoundland and Labrador. Only 52.3% (95% CI: 50.3 – 54.2) had a PCP with whom they were comfortable discussing trans health issues and 44.4% (95% CI: 42.3 – 46.4) reported past-year unmet health care need. Among participants who needed gender-affirming medical treatment, self-defined treatment completion ranged from an estimated 16.6% in Newfoundland and Labrador (95% CI: 0.6 - 32.5%) to 59.1% (95% CI: 52.5 – 65.6) in Quebec. Of those who needed but had not completed gender-affirming care at the time of the study, 40.7% (95% CI: 37.8 – 43.6) were on a waitlist, most often for surgery.

Interpretation: Despite efforts toward equity in access to care for trans and non-binary people in Canada, participants generally reported poorer healthcare access than other Canadians, and considerable unmet need for gender-affirming care, with substantial regional variation.

BACKGROUND

 Transgender (trans) and gender non-binary persons¹ constitute an estimated 0.1% to 2% of the population, varying based on geographic location.² Health inequities experienced by trans and non-binary populations have been increasingly documented over the past decade. These include higher rates of mental health concerns, driven in part by stigma and discrimination.³ In addition, many trans and non-binary people require access to gender-affirming medical treatments (e.g., hormones and/or surgery)⁴ and completion of such treatment has been associated with reduced suicide risk among trans people in Ontario.⁵ These health inequities and trans-specific care needs necessitate facilitated health care access for trans and non-binary communities. Primary care is generally the first engagement point with health care in Canada, including for gender-affirming treatment,⁶ and many social determinants of health frameworks place quality health care services as a human right.⁷

Previous Canadian studies have highlighted health care access issues for trans and nonbinary persons. Trans PULSE Ontario, using respondent-driven sampling to calculate estimates for the Ontario trans population, explored primary care in several analyses. The 2009-2010 study found that 17.2% of trans Ontarians did not have a family physician,⁸ as compared with 9.1% of Ontarians overall in 2011.⁹ Trans Ontarians were approximately three times more likely to report an unmet health care need when compared with the age-standardized Ontario population (33.2% versus 10.7%).¹⁰ Further, realizable access to gender-affirming care requires that trans and nonbinary people feel able to discuss their health needs with providers. However, among those with a regular family physician, approximately 37% reported discomfort discussing trans-specific health issues with that physician.¹¹ Relationships with primary care providers are integral to long-term positive health outcomes for trans persons. A survey of trans adolescents and young

adults in Canada found that having a doctor who was aware of one's gender identity, and comfort with a family doctor, were positively associated with general and mental health.¹²

Existing quantitative data on trans health care access in Canada largely come from the 2009-2010 Trans PULSE Ontario study. Much has changed in the intervening decade, including the introduction of province-wide continuing medical education and care navigation initiatives^{13,14} and increased coverage for gender-affirming surgical care under provincial and territorial health insurance plans. In addition, as health care is primarily a provincial/territorial responsibility in Canada, it is critical to understand geographic variation in access to care for trans and non-binary people. However, there is a paucity of national data on trans and non-binary adolescents and adults. Drawing on data from the first all-ages, comprehensive national survey of trans and non-binary health in Canada, this paper compares access to primary and gender-affirming care amongst trans and non-binary participants living in different provinces or regions.

METHODS

Study Design

Trans PULSE Canada was a national, community-based research study on the health of transgender and gender non-binary (collectively "trans") people in Canada. Survey data collection occurred over a 10-week period from August through October 2019, using a multi-mode convenience sampling approach. Eligible participants were 14 years of age or older, living in Canada, and indicated that their gender identity differed from their sex assigned at birth. The survey could be completed in English or French online, via paper copy (mailed out with a self-addressed, stamped return envelope), by telephone (with or without a language interpreter), or on an electronic tablet with a Peer Research Associate in 11 major urban areas. The survey was promoted online (mailing lists, social media), in-person at sexual and gender minority-focused

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community spaces and events (e.g., Pride festivals), and through outreach by Peer Research Associates. Participants were given the choice of completing the full-length survey (~60 minutes) or a short-form (~10 minutes) containing key items from each section. The survey was initially adapted from Trans PULSE, an Ontario-wide study conducted in 2009-2010, and revised through an intensive community engagement process involving nine priority population consultation teams. Measures were also selected for comparability with Statistics Canada surveys. The survey was pre-tested for clarity and functionality. The study was approved by research ethics boards at Western University, Unity Health Toronto, and Wilfrid Laurier University.

Measures

All variables were self-reported. We considered five outcomes reflecting access to primary, gender-affirming, and general health care:

(1) *Access to a primary care provider* (PCP) was coded as yes (versus no) if the participant reported having a current family doctor or nurse practitioner.

(2) Access to a primary care provider with whom the participant feels comfortable discussing *trans health issues* was coded as yes (versus no) if the participant had a primary care provider and felt very or mostly (versus somewhat or not at all) comfortable discussing trans health issues with the provider.

(3) *Unmet health care need* (yes versus no) if the participant reported needing but not receiving health care (excluding home care) over the previous 12 months.

(4) *Completion of medical gender affirmation* was assessed among those who indicated that they needed puberty blockers, hormones, and/or surgery and categorized as complete, in process, or planning but not begun.

(5) *On a waitlist for gender-affirming care* was assessed among those who needed but had not completed gender-affirming care and coded as yes (versus no) if the respondent indicated being on a waitlist for a mental health assessment, puberty blockers, hormones, and/or surgery.

Province/territory was the exposure of interest. Province/territory was the exposure of interest. To avoid small cell sizes, we grouped together the territories (Northwest, Nunavut, Yukon) and the Maritime provinces (Prince Edward Island, New Brunswick, Nova Scotia). Due to markedly different crude outcome frequencies, we did not group Newfoundland and Labrador with the Maritime provinces despite this being a part of the Atlantic region. For comparability across provinces or regions, we standardized the population structure through adjustment for a set of demographic variables. Selection of these variables was guided by Levesque's model of patient-centered access to care;¹⁵ in particular, we adjusted for socio-demographic determinants of health service approachability, acceptability, availability, affordability, and appropriateness that might vary by (without being caused by) geographic location. Therefore, covariates for all multivariable analyses included age (in years), lived gender (man or boy, woman or girl, Indigenous or other cultural gender identity, non-binary or similar identity), ethnoracial group (Indigenous, non-Indigenous racialized, or white), rurality (yes vs. no, based on postal code), education (less than high school, high school graduate, or any post-secondary education), lowincome household (Statistics Canada Low-Income Measure¹⁶), immigration history (born in Canada vs. not).

Statistical Analysis

First, we calculated covariate frequencies stratified by province/region in SAS 9.4 (SAS Institute Inc., Cary, NC, 2013). Participants who completed the short form survey, who did not report province/territory of residence, or who were missing data on all outcomes (i.e., who did

not complete health care access sections of the questionnaire) were excluded from these analyses. Of remaining participants, 15.7% (n=349) were missing data on at least one variable, most often low-income status (n=205). To avoid bias due to complete-case analysis, prior to subsequent analyses we used multiple imputation by chained equations, using all variables under *Measures* in the imputation models. As the number of imputations should be at least the fraction of incomplete cases,¹⁷ we imputed 30 datasets and obtained pooled estimates using *mi estimate* commands in STATA 16 (StataCorp, College Station, TX, 2019).

We then estimated multivariable logistic regression models for the association between province/region and each outcome (multinomial logistic regression for medical gender affirmation). All five multivariable models were adjusted for the full set of covariates described above. Next, we used the *mimrgns* package¹⁸ to estimate average marginal predictions and their 95% confidence intervals for each outcome by province/region. These predicted probabilities can be intuitively interpreted as the expected frequency of the outcome were the entire sample to live in the specified province or region.¹⁹ Finally, among waitlisted participants who provided complete data, we calculated median wait times and used Wilcoxon rank-sum tests to explore differences by province or region, as well as sex assigned at birth (for surgery only).

The study team developed a set of weights to adjust the full-length survey data to the demographics of all participants (short- and full-length versions). Application of these weights in the current analysis had no appreciable impact on estimated frequencies or regression coefficients and thus we present unweighted data herein.

RESULTS

Of 2,873 Trans PULSE Canada participants, 392 completed the short-form survey, 5 did not report their province/territory of residence, and 259 did not complete the health care access

sections of the questionnaire. The 2217 participants included in these analyses resided in all provinces and territories except Nunavut. The regional distribution of participants was broadly similar to the Canadian population; however, there was a relatively lower proportion of respondents in Quebec (11.5%) and higher proportions in British Columbia and Alberta (19.4% each).²⁰ Participant characteristics stratified by province or region are shown in Table 1.

Most Trans PULSE Canada participants had a PCP (81.4%, 95% CI: 79.8 - 83.0), with considerable regional variation (Figure 1). The model-predicted probability with a PCP ranged from 52.1% (95% CI: 20.2 - 84.1) in the Territories to 92.9% (95% CI: 83.5 - 100.0) in Newfoundland and Labrador. However, only about half (52.3%, 95% CI: 50.3 - 54.2) of trans and non-binary participants had a PCP with whom they felt mostly or very comfortable discussing trans health issues (Figure 2). Past-year unmet healthcare need(s) was reported by 44.4% (95% CI: 42.3 - 46.4) of participants, with over one-third reporting unmet need in every province or region (Figure 3).

Among participants who needed gender-affirming medical treatments (n=1627), overall 35.4% (95% CI: 33.3 – 37.6) had completed such care, with predicted probabilities from 16.6% (95% CI: 0.6 – 32.5) in Newfoundland and Labrador to 59.1% (95% CI: 52.5 – 65.6) in Quebec (Figure 4). Of those who needed but had not completed gender-affirming care (n=1046), 40.7% (95% CI: 37.8 – 43.6) were on a waitlist for such care at the time of the study (Figure 5). In Alberta and the Territories, over half of those still needing gender-affirming care were estimated to be on a waitlist. Nationally, of 416 participants on a waitlist for gender-affirming care, 82.0% (n=341) were waiting for surgery, 14.9% (n=62) for a mental health assessment, 13.2% (n=55) for hormone therapy, and 0.5% (n=2) for puberty blockers (results not shown). Median [IQR] time on a waitlist was 6.0 [3.0-12.0] months for surgery, 5.5 [3.0-11.0] months for mental health

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assessments, and 4.0 [2.0-6.0] months for hormones. Median wait times did not vary significantly by province or region (p from 0.191 – 0.637). Median wait times for surgery did not vary by sex assigned at birth (p=0.213).

INTERPRETATION

Among 2217 transgender and non-binary residents of Canada surveyed in 2019, we found suboptimal access to both general and gender-affirming healthcare services. Although the majority of participants had a PCP, in six of nine provinces or regions, the estimated proportion with a primary care provider was lower than the national average in 2019 (85.5%).²¹ Realizable access to trans-competent care was less common, with between 42.2% and 65.8% indicating they had a PCP with whom they felt comfortable discussing trans health issues. Between 33.1% and 61.5% reported past-year unmet healthcare need(s), far exceeding the Canadian Community Health Survey (CCHS) estimate of 5.5% in 2017-2018.²²

In Ontario, data are available from a 2009-2010 province-wide respondent-driven sampling study, although results are not directly comparable due to use of standardization in the present study and our wider age range (14+ versus 16+). In the previous study, an estimated 82.8% of trans Ontarians had a family physician, about two-fifths had a PCP with whom they felt comfortable discussing trans health issues, and 33.2% had a past-year unmet healthcare need.^{8,10,11} Estimates in the current study are not substantially changed from the 2009-2010 data, indicating the persistence of profound inequities in access to care.

Intra-provincial/regional variation in health care access among trans and non-binary people may reflect differences in provincial health insurance schemes, provider availability, and continuing education of healthcare providers. For example, Quebec had the highest proportion of respondents indicating that they had completed medical gender affirmation, which may be

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related to the province having both a universal pharmacare program and the country's largest gender-affirming surgical centre (and until recently the only domestic provider of genital surgeries). Although other provincial and territorial health insurance plans will cover the costs of out-of-province surgery, travel and accommodation are generally the patient's financial responsibility. Similarly, respondents from Quebec were least likely to be on waitlists for gender-affirming care, followed by those in Ontario, where Canada's first hospital-based genderaffirming surgical program is located.

That participants from Newfound and Labrador reported the best access to primary care may reflect the availability of a small number of trans-affirming healthcare providers in the St. John's region who are sufficient to facilitate access locally, at least for trans and non-binary individuals connected to trans community networks. Finally, although results should be cautiously interpreted due to small numbers and wide confidence intervals, respondents from the Yukon and Northwest Territories appeared to fare worse than other trans and non-binary Canadians.

Future studies should examine reasons for inter- (and intra-) provincial variation in access to gender-affirming care, including qualitative studies and studies focused on healthcare providers and system factors. In addition, the recent addition of new gender measures to nationally representative surveys including the Canadian Community Health Survey will permit population-based analyses of inter-provincial/territorial differences in general healthcare access, and direct assessment of inequalities in comparison to the broader population.

Limitations

Our study has clear limitations. Sampling was non-random; despite efforts to reduce participation bias (e.g., using a multimode survey) and to use adjustment to standardize the

> population structure across provinces and regions, regional differences may reflect a combination of true population differences and sampling artefacts. In addition, small samples in some provinces/territories created imprecision in estimates, as indicated by wide CIs. Addressing this through grouping of the Maritimes and territories may obscure heterogeneity across those less populous individual provinces or territories. Our comparisons with CCHS data do not account for regional differences in healthcare access in the broader population, nor for differences between the sociodemographic structure of the trans and non-binary population and the general population (e.g., younger age). Finally, provincial and regional estimates may obscure important within-province heterogeneity, such as intersectional inequalities by gender identity and race/ethnicity.⁸

Conclusion

Since the first survey data on healthcare access among trans people in Canada were collected in Ontario in 2009-2010, multiple initiatives to expand and enhance trans health services have been implemented. Nevertheless, these data demonstrate that trans and non-binary people in Canada continue to be medically underserved, with particularly stark differences in unmet healthcare need relative to the wider Canadian population and significant wait times for potentially urgent gender-affirming care. The existence of provincial and regional variation in access to both primary and gender-affirming care underscores the importance of continuing efforts to improve provider training and availability, public insurance coverage (including for travel and all aspects of surgical and pre- and post-surgical care), as well as care navigation supports, for trans and non-binary people across Canada.

	BC n (%) (<i>n</i> =430)	AB n (%) (<i>n</i> =430)	SK n (%) (<i>n</i> =81)	MB n (%) (<i>n</i> =58)	ON n (%) (<i>n</i> =780)	QC n (%) (<i>n</i> =255)	NL n (%) (<i>n</i> =27)	Maritime n (%) (<i>n</i> =146)	NWT/YK n (%) (<i>n</i> =10)
Age (median, [IQR])	30 [24-40]	27 [22-35]	26 [22-31]	29 [24-36]	28 [23-37]	27 [22-33]	25 [22-30]	28 [22-35]	35 [26-40
Lived gender									
Man or boy	122 (28.4)	129 (30.0)	19 (23.5)	22 (37.9)	243 (31.2)	98 (38.4)	12 (44.4)	59 (40.4)	4 (40.0)
Woman or girl	140 (32.6)	140 (32.6)	23 (28.4)	6 (10.3)	216 (27.7)	68 (26.7)	9 (33.3)	37 (25.3)	1 (10.0)
Indigenous or other cultural gender	18 (4.2)	31 (7.2)	8 (9.9)	4 (6.9)	49 (6.3)	4 (1.6)	1 (3.7)	11 (7.5)	0 (0.0)
Non-binary, genderqueer, agender, or similar	150 (34.9)	129 (30.0)	31 (38.3)	26 (44.8)	268 (34.4)	85 (33.3)	5 (18.5)	39 (26.7)	5 (50.0)
Missing	0	1 (0.2)	0 (0.0)	0 (0.0)	4 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Ethnoracial group				46	0				
Indigenous	35 (8.1)	42 (9.8)	13 (16.1)	7 (12.1)	56 (7.2)	12 (4.7)	2 (7.4)	6 (4.1)	3 (30.0)
Racialized, non- Indigenous	48 (11.2)	38 (8.8)	3 (3.7)	8 (13.8)	116 (14.9)	17 (6.7)	0 (0.0)	6 (4.1)	0 (0.0)
White	343 (79.8)	347 (80.7)	65 (80.3)	43 (74.1)	600 (76.9)	222 (87.1)	25 (92.6)	132 (90.4)	7 (70.0)
Missing	4 (0.9)	3 (0.7)	0 (0.0)	0 (0.0)	8 (1.0)	4 (1.6)	0 (0.0)	2 (1.4)	0 (0.0)
Education			1	I					
Less than high school	47 (10.9)	58 (13.5)	12 (14.8)	3 (5.2)	59 (7.6)	27 (10.6)	1 (3.7)	13 (8.9)	3 (30.0)
High school	43 (10.0)	56 (13.0)	10 (12.4)	8 (13.8)	70 (9.0)	31 (12.2)	2 (7.4)	25 (17.1)	0 (0.0)
Any college or university	339 (78.8)	313 (72.8)	59 (72.8)	46 (79.3)	650 (83.3)	196 (76.9)	24 (88.9)	108 (74.0)	7 (70.0)
Missing	1 (0.2)	3 (0.7)	0 (0.0)	1 (1.7)	1 (0.1)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)

1 2 3		BC n (%) (<i>n</i> =430)	AB n (%) (<i>n</i> =430)	SK n (%) (<i>n</i> =81)	MB n (%) (<i>n</i> =58)	ON n (%) (<i>n</i> =780)	QC n (%) (<i>n</i> =255)	NL n (%) (<i>n</i> =27)	Maritime n (%) (<i>n</i> =146)	NWT/YK n (%) (<i>n</i> =10)
4 5	Low-income household		·				· · · ·		· · ·	
6	Yes	169 (39.3)	152 (35.4)	31 (38.3)	21 (36.2)	314	121	12 (44.4)	61 (41.8)	3 (30.0)
8	No	218 (50.7)	221 (51.4)	39 (48.2)	35 (60.3)	412	115	10 (37.0)	72 (49.3)	6 (60.0)
9	Missing ^b	43 (10.0)	57 (13.3)	11 (13.6)	2 (3.5)	54 (6.9)	19 (7.5)	5 (18.5)	13 (8.9)	1 (10.0)
11	Rural									
12 13	Yes	29 (6.7)	18 (4.2)	8 (9.9)	4 (6.9)	34 (4.4)	15 (5.9)	1 (3.7)	12 (8.2)	2 (20.0)
14	No	394 (91.6)	400 (93.0)	71 (87.7)	53 (91.4)	725	231	25 (92.6)	131 (89.7)	8 (80.0)
15 16	Missing	7 (1.6)	12 (2.8)	2 (2.5)	1 (1.7)	21 (2.7)	9 (3.5)	1 (3.7)	3 (2.1)	0 (0.0)
17	Born in Canada									
19	Yes	333 (77.4)	389 (90.5)	75 (92.6)	56 (96.6)	677	227	26 (96.3)	136 (93.2)	9 (90.0)
20 21	No	94 (21.9)	39 (9.1)	5 (6.2)	2 (3.5)	95 (12.2)	28 (11.0)	1 (3.7)	10 (6.9)	1 (10.0)
22	Missing	3 (0.7)	2 (0.5)	1 (1.2)	0 (0.0)	8 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
23 24	³ Medical gender affirmation									
25	Complete	102 (23.7)	90 (20.9)	15 (18.5)	11 (19.0)	195	103	3 (11.1)	36 (24.7)	4 (40.0)
26 27	In process	167 (38.8)	131 (30.5)	26 (32.1)	24 (41.4)	254	43 (16.9)	10 (37.0)	58 (39.7)	2 (20.0)
28	Planning but not begun	51 (11.9)	81 (18.8)	13 (16.1)	6 (10.3)	101	29 (11.4)	5 (18.5)	20 (13.7)	1 (10.0)
29 30	Not planning or unsure	99 (23.0)	116 (27.0)	26 (32.1)	16 (27.6)	206	67 (26.3)	9 (33.3)	26 (17.8)	2 (20.0)
31	Missing	11 (2.6)	12 (2.8)	1 (1.2)	1 (1.7)	24 (3.1)	13 (5.1)	0 (0.0)	6 (4.1)	1 (10.0)

^aBC = British Columbia, AB = Alberta, SK = Saskatchewan, MB = Manitoba, ON = Ontario, QC = Quebec, NL = Newfoundland and Labrador, Maritime= New

Brunswick, Nova Scotia, Prince Edward Island, NWT/YK = Northwest Territories and Yukon.

^b Including participants aged 14-15 who were not asked income questions.



Figure 1. Adjusted predicted probability of having a primary care provider among Trans PULSE Canada participants (n=2217), 2019

a. In 2019, 85.5% of Canadians aged 12+ had a primary care provider (Canadian Community Health Survey).

Note: British Columbia, AB =Alberta, SK = Saskatchewan, MB =Manitoba, ON = Ontario, QC = Quebec, NL = Newfoundland and Labrador, Maritime= New Brunswick, Nova Scotia, Prince Edward Island, NWT/YK = Northwest Territories and Yukon.

Figure 2. Adjusted predicted probability of having a primary care provider with whom the respondent is comfortable discussing trans issues, among Trans PULSE Canada participants (n=2217), 2019



Note: British Columbia, AB =Alberta, SK = Saskatchewan, MB =Manitoba, ON = Ontario, QC = Quebec, NL = Newfoundland and Labrador, Maritime= New Brunswick, Nova Scotia, Prince Edward Island, NWT/YK = Northwest Territories and Yukon.



Figure 3. Adjusted predicted probability of past-year unmet healthcare need among Trans PULSE Canada participants (n=2217), 2019

a. In 2017/2018, 5.5% of Canadians aged 12+ had a past-year unmet health care need (Canadian Community Health Survey, based on included provinces—Alberta, Manitoba, Ontario, New Brunswick, and Nova Scotia).

Note: British Columbia, AB =Alberta, SK = Saskatchewan, MB =Manitoba, ON = Ontario, QC = Quebec, NL = Newfoundland and Labrador, Maritime= New Brunswick, Nova Scotia, Prince Edward Island, NWT/YK = Northwest Territories and Yukon.

Figure 4. Adjusted predicted probabilities for medical gender affirmation status among Trans PULSE Canada participants needing gender-affirming care (n=1627), 2019



Note: British Columbia, AB =Alberta, SK = Saskatchewan, MB =Manitoba, ON = Ontario, QC = Quebec, NL = Newfoundland and Labrador, Maritime= New Brunswick, Nova Scotia, Prince Edward Island, NWT/YK = Northwest Territories and Yukon.



Figure 5. Adjusted predicted probability of being on a waitlist for gender-affirming care, among Trans PULSE Canada participants needing but not having completed care (n=1046), 2019

Note: British Columbia, AB =Alberta, SK = Saskatchewan, MB =Manitoba, ON = Ontario, QC = Quebec, NL = Newfoundland and Labrador, Maritime= New Brunswick, Nova Scotia, Prince Edward Island, NWT/YK = Northwest Territories and Yukon.

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