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Title: Homelessness associated with viral load suppression failure and reduced access to healthcare and poor HIV health outcomes among women living with HIV in Metro Vancouver, Canada

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We acknowledge the land on which we work is the unceded traditional territory of the Coast Salish Peoples, including the territories of xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and Səlílwətaʔ (Tsleil-Waututh) Nations.



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The problem:

- Homelessness has been associated with limited access to HIV care and broader healthcare services in many populations.
- Limited research with cisgender (cis) and transgender (trans) WLWH has studied housing needs and its impact on HIV health outcomes and healthcare access.

Research objectives:

- To study the associations between **housing status and the HIV care continuum and unmet health care needs.**

Innovation:

- The application of the Canadian Definition of Homelessness (CDOH), adopted by the Government of Canada to address the lack of consensus in defining homelessness/housing status
- Accessible and translatable results for a wide range of audiences (e.g., national housing experts, stakeholders, and scholars).

The SHAWNA cohort:

- Longitudinal community-based open cohort.
- Cis and trans WLWH aged 14+.
- Live or access health care in Metro Vancouver, Canada.
- 336 participants, 1930 observations from 2010-2019.

Outcome variables:

- Currently taking antiretroviral (ART), self-reported ART adherence in the last 3-4 weeks.
- HIV viral load (detectable: >50 copies/mL), median CD4 count in the last 6 months.
- Unmet health care needs in primary, dental, and mental health in the last 6 months.

Explanatory variable:

- Housing status in the last 6 months: unsheltered, unstable, supportive housing, and stable housing (reference).

Statistical analysis:

- Bivariate and multivariable (confounder) models using generalized estimating equations (GEE) to analyze association between housing status and HIV outcomes and unmet health care needs.
- Adjusted odds ratios (AOR) and 95% confidence intervals [95%CI] were reported.

Table 1a Baseline descriptive statistics of housing status and demographic characteristics.

	Total N=336 (100)
Housing status	
Unsheltered	82 (24.4)
Unstable	159 (47.3)
Supportive housing	40 (11.9)
Stable housing	55 (16.4)
Age (median, IQR)	43 (36-50)
Race	
White	115 (34.2)
Indigenous	191 (56.9)
Otherwise racialized ^a	30 (8.9)
Sexual minority^b	110 (32.7)
Gender minority^c	33 (9.8)
Hospitalization	79 (23.5)
Physical/sexual violence	62 (18.5)
Stimulant use	221 (65.8)

^a Including African, Caribbean, Black, Latin American, Asian, other.

^b Including lesbian, gay, bisexual, asexual, Two-Spirit, queer, other.

^c Including transgender women, gender diverse, and Two-Spirit persons.

Table 1b Baseline descriptive statistics of HIV outcome variables in full sample and health care needs outcome variables in subsample.

Outcomes	Total N=336 (100)
On ART	275 (81.9)
ART adherence	
≥95% adherence	196 (58.3)
<95% adherence	77 (22.9)
Not on ART	61 (18.2)
Detectable viral load	139 (41.4)
Median CD4 <200	47 (14.0)
Unmet primary care needs*	50 (15.7)
Unmet dental care needs*	83 (26.1)
Unmet mental health care needs*	52 (16.4)

* Subsample N=318 (100%)

Table 2 Adjusted odds ratios from multivariable GEE model for the association between housing status and health outcomes (abridged results).

Outcomes	Adjusted odds ratios (95% CI)
	Unsheltered (vs. stable housing)
Not on ART	2.11 (1.33-3.36)
Detectable viral load	1.86 (1.29-2.67)
Unmet primary care needs	2.06 (1.20-3.55)
Unmet dental care needs	1.61 (1.02-2.54)

Conclusions & Acknowledgments

Homelessness has substantial impacts on HIV health outcomes and unmet health care needs.

Implications for housing and health services for WLWH and marginalized populations:

- Housing programs with connection to women-centred health services,
- Highly integrated health services and outreach programs,
- Input and involvement from individuals with lived experiences,
- Cultural safety and humility,
- Gender-responsiveness,
- Trauma- and violence-informed practices,
- Low-barrier requirements for membership,
- Supportive harm reduction, addiction treatments,
- Removal of systemic and structural barriers.

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