

# Patterns and correlates of displacement of sex workers and implications for HIV programmes: Findings of a community-based project in Vancouver, Canada

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## Background

Criminalization and policing have increased the displacement of sex workers (SWs) from their usual work spaces. SWs displacement has been associated with increased HIV risk and reduced access to HIV services which could negatively affect their wellbeing. The implementation of Bill C-36, a Canadian federal law which criminalizes the purchase of sex, will likely exacerbate this issue, particularly for the most vulnerable. To date, little is known about correlates of SWs displacement within small urban geographic areas, especially in developing countries.

Drawing on longitudinal data from a community-based cohort, innovative mapping techniques and spatial epidemiological analyses were used to identify

- (1) spatial patterns of workplace displacement (defined as mobility between neighborhoods)
- (2) contextual (policing, violence, and safety) and individual correlates (defined as changing the primary place of service and solicitation neighbourhood between at least two study visits) of SWs, over time, in an urban Canadian setting.

## Methods

This analysis utilized data from a longitudinal community-based cohort of SWs self-identified as women in Metro Vancouver (AESHA, 2010-2016). Participants completed interviewer-administered questionnaires covering work environment, criminalization, health, and safety, and included spatial measures of work environment (e.g. places of servicing and soliciting clients).

Variables at the individual (e.g. age and ethnicity), interpersonal (e.g. unprotected sex), and structural level (e.g. access to health care services) were used to explain why SWs moved between neighborhoods. A multivariable logistic regression with generalized estimating equations was used to examine correlates of displacement. Mapping was used to examine patterns of displacement by neighbourhood. All statistical analyses were conducted in SAS 9.4 (© SAS Institute Inc., SAS).

## Results

543 SWs who provided a valid location of solicitation and/or service in at least two separate study visits were included in the analyses; they contributed 2041 observations over a median follow-up period of 36 months (interquartile range (IQR) 28–43).

Table 1 Baseline characteristics of 543 SWs who moved to a different neighborhood vs. those who did not in Metro Vancouver.

Variables	Moved to a different neighborhood		p - value
	Yes n (%) 264(48.6%)	No n (%) 279(51.4%)	
<b>Age</b> (years) (median, IQR)	34(28-42)	37(29-43)	0.007
<b>Gender/sexual minority</b>			
yes	99(37.5)	84(30.1)	0.069
no	165(62.5)	195(69.9)	
<b>Ethnicity</b>			
White	102(38.9)	87(31.3)	0.063
Not white	160(61.1)	191(68.7)	
<b>Indigenous</b>			
yes	111(42.0)	117(41.9)	0.979
no	153(58.0)	162(58.1)	
<b>Immigrant to Canada</b>			
yes	56(21.2)	72(25.9)	0.199
no	208(78.8)	206(74.1)	
<b>Education (Completed High School)</b>			
High school graduate	140(53.0)	139(49.8)	0.455
less than high school	124(47.0)	140(50.2)	
<b>Non-injection drug use</b>			
yes	189(71.9)	183(65.6)	0.116
no	74(28.1)	96(34.4)	
<b>Injection drug use</b>			
yes	127(48.1)	115(41.2)	0.107
no	137(51.9)	164(58.8)	
<b>Self-rated health is better/same compared to six months ago</b>			
yes	214(81.4)	237(84.9)	0.265
no	49(18.6)	42(15.1)	
<b>Coerced into unprotected sex</b>			
yes	48(19.2)	40(15.4)	0.263
no	202(80.8)	219(84.6)	
<b>Homeless</b>			
yes	79(29.9)	50(18.1)	0.001
no	185(70.1)	226(81.9)	
<b>Place of service</b>			
Informal Indoor/ Brothel/quasi-brothel	151(59.0)	192(70.3)	0.006
Outdoor	105(41.0)	81(29.7)	
<b>Harassed by police</b>			
yes	76(28.9)	73(26.2)	0.476
no	187(71.1)	206(73.8)	
<b>Charged or arrested by police</b>			
yes	2(0.8)	0(0)	0.238
no	259(99.2)	273(100)	
<b>Rushed negotiation because of police</b>			
yes	96(36.6)	92(33.0)	0.371
no	166(63.4)	187(67.0)	
<b>Experienced red zone restriction</b>			
yes	11(4.4)	5(1.9)	0.11
no	237(95.6)	252(98.1)	
<b>Moved because of safety</b>			
yes	26(10.4)	15(5.8)	0.056
no	225(89.6)	245(94.2)	
<b>Income</b> (median, IQR)	2400(1200-4200)	2000(1000-4000)	0.296

All variables refer to the last 6 months, with the exception of age, gender/sexual orientation, ethnicity, Indigenous ancestry, immigration status, and education level  
All measures refer to n (%) unless otherwise noted  
Gender/sexual minority: Any of 'Gay', 'Lesbian', 'Bisexual', 'Two spirit', 'Asexual', 'Transgender', 'Intersex', 'Transsexual', 'Genderqueer', 'Other'

## Results (Continued)

In multivariate GEE analysis (Table 2), neighborhood mobility was associated with younger age. Furthermore, homelessness, identifying as a gender/sexual minority, being harassed by police, changing work environments due to safety, and servicing outdoor as opposed to servicing in informal or formal indoor spaces were correlated with increased odds of neighborhood mobility.

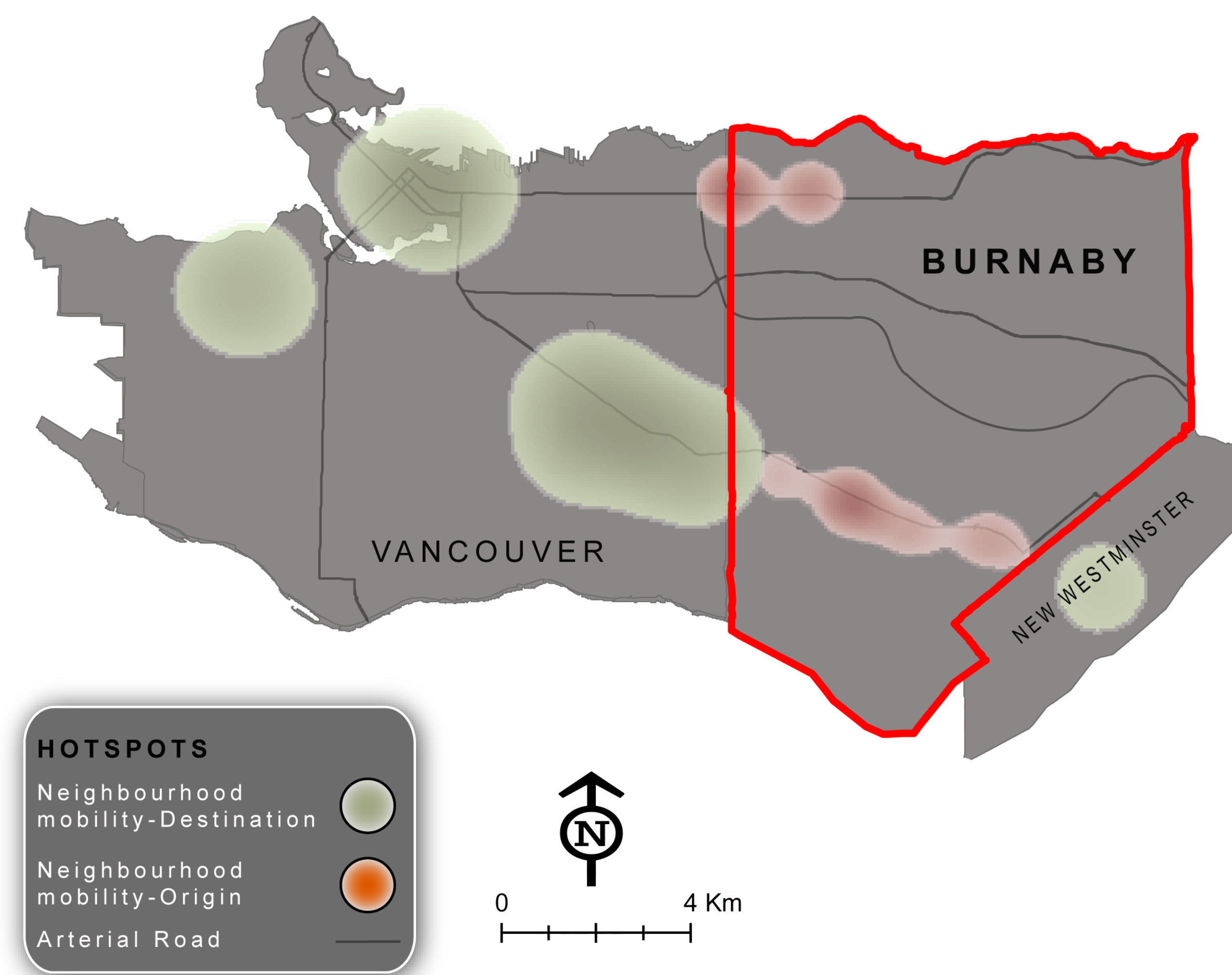
Table 2. Variable longitudinally associated with moving primary neighborhood of solicitation/service among SWs in Metro Vancouver (n=543, 2199 observations) between 2010-2016

Variables	Odds Ratio (OR)	
	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Age	0.98(0.97-0.99)	0.99(0.97-1.00)
Gender/sexual minority	1.41(1.11-1.81)	1.31(1.02-1.67)
Im/migrant to Canada	0.70(0.52-0.94)	-
Homeless	1.62(1.28-2.04)	1.41(1.11-1.79)
Income (per \$1000 CAD)	1.02(1.00-1.04)	-
Experienced client violence (Physical, sexual)	1.30(1.01-1.69)	-
Harassed by police	1.24(1.03-1.51)	1.19(0.96-1.48)
Rushed negotiation because of police	1.17(0.96-1.42)	-
Affected by police presence	1.29(1.06-1.57)	-
Moved neighborhood because of safety	1.53(1.08-2.18)	1.37(0.94-2.00)
Self-rated health is better/same than six months ago	0.85(0.69-1.06)	-
Place of service		
Informal Indoor/ Brothel/quasi- brothel	Ref	Ref
Outdoor	1.62(1.35-1.96)	1.48(1.21-1.81)

All variables refer to the last 6 months, with the exception of age, gender/sexual identity, and immigration status  
Gender/sexual minority: Any of 'Gay', 'Lesbian', 'Bisexual', 'Two spirit', 'Asexual', 'Transgender', 'Intersex', 'Transsexual', 'Genderqueer', 'Other'

The spatial analysis of neighborhood mobility patterns indicated that the City of Burnaby experienced the most outward mobility, as opposed to inward mobility, during the study period (n=107 vs. n=76). Figure 1 shows SWs mobility patterns from Burnaby whereby most SWs moved back to neighborhoods within the City of Vancouver, either to the downtown and DTES or along Kingsway Road.

Figure 1. Hotspots of SWs mobility from the city of Burnaby, 2010-2016.



## Discussion

This study indicates that the marginalized populations of SWs (e.g., youths, sexual/gender minorities, street-based SWs) were more likely to experience mobility and they were likely displaced.

Consequently, it is critical to reduce displacement for the most marginalized populations by implementing policies that will reduce aggravating factors such as violence and harassment by police and the community. In order to accomplish this goal, it is necessary to move away from legislation that focuses on policing and enforcement, like bill C-36, and to promote initiatives that focus on protecting SWs' rights and wellbeing.

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