

# FACTORS ASSOCIATED WITH EVER AND RECENT INCARCERATION EXPERIENCE AMONG WOMEN LIVING WITH HIV IN CANADA

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## Background

While incarceration can provide an opportunity for women living with HIV (WLWH) to engage in HIV care and access antiretroviral therapy (ART), they face numerous social and structural challenges in maintaining their HIV treatment in the community post-release.

**Study objective:** To describe the prevalence and correlates of ever and recent incarceration among WLWH in Canada.

## Methods

The **Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHIWOS)** is a longitudinal community-based research study of 1,425 WLWH in BC, ON, and QC. Peer Research Associates (WLWH who have research training and lived experience) administer a comprehensive, online questionnaire to participants at baseline and 18 months, collecting socio-demographic, behavioral, clinical, and other health information.

**In this analysis:** Baseline questionnaire data were analyzed for participants enrolled between Aug 27, 2013 and May 1, 2015 with valid responses to both questions about recent (i.e. in the past year) and ever (i.e. previously but not in the past year) incarceration (n=1,422). Bivariable and multivariable logistic regression produced unadjusted and adjusted estimates of the associations between covariates and the main outcome measure (Table 2).

## Results

**Table 1. Baseline characteristics of women living with HIV enrolled in CHIWOS overall and by incarceration experience (n=1,422)**

Variables	Incarceration experience								P-value
	Overall (n=1,422)		Never (n=898)		Ever, but not last year (n=432)		Last year (n=92)		
	N	(%)	N	(%)	N	(%)	N	(%)	
<b>Province interview conducted</b>									0.001
Québec	354	25	257	29	77	18	20	22	
British Columbia	356	25	134	15	186	43	36	39	
Ontario	712	50	507	56	169	39	36	39	
<b>Median age (years) [IQR]</b>	43 [35–50]		42 [35–50]		45 [37–51]		40 [34–46]		0.001
<b>Ethnicity</b>									<0.001
Indigenous	318	22	114	13	155	36	49	53	
African/Caribbean/Black	417	29	396	44	16	4	5	5	
Caucasian	584	41	317	35	233	54	34	37	
<b>Gender identity</b>									0.101
Woman	1358	96	865	96	406	94	87	95	
<b>Sexual orientation</b>									<0.001
Heterosexual	1239	87	830	92	346	80	63	68	
<b>Personal gross yearly income</b>									<0.001
< \$20,000	998	70	562	63	353	82	83	90	
<b>Housing stability</b>									<0.001
Stable	1270	89	838	93	368	85	64	70	
<b>Education</b>									<0.001
High school or higher	1188	84	812	90	309	72	67	73	
<b>Mental health condition ever</b>									<0.001
Yes	573	40	285	32	238	55	50	54	
<b>Probable depression (CES-D)</b>									<0.001
Yes	665	47	365	41	228	53	72	78	
<b>Resilience scale</b>									<0.001
Low	733	52	422	47	249	58	62	67	
<b>HIV stigma scale</b>									0.798
Low HIV-related stigma	723	51	462	51	216	50	45	49	
<b>Experience any form of violence as an adult</b>									<0.001
Yes	1057	74	598	67	385	89	74	80	
<b>Current sex work</b>									<0.001
Yes	82	6	13	1	51	12	18	20	
<b>Current recreational drug use</b>									<0.001
Currently RDU	256	18	40	4	158	37	58	63	
Not currently RDU but previously	387	27	149	17	212	49	26	28	
Never RDU	752	53	696	78	49	11	7	8	
<b>Current injection drug use</b>									<0.001
Currently IDU	123	9	10	1	76	18	37	40	
Not currently IDU but previously	315	22	53	6	226	52	36	39	
Never IDU	958	67	823	92	117	27	18	20	
<b>Received HIV medical care in the past year</b>									0.001
Yes	1330	94	849	95	403	93	78	85	
<b>Ever received HIV medical care</b>									<0.001
Yes	1375	97	873	97	420	97	82	89	
<b>Current antiretroviral use</b>									0.006
Currently on ARVs	1175	83	744	83	362	84	69	75	
Not currently on ARVs but previously	66	5	31	3	29	7	6	7	
Never on ARVs	174	12	117	13	40	9	17	18	
<b>Current antiretroviral therapy adherence (self-reported)</b>									<0.001
< 95%	310	22	173	19	100	23	37	40	
≥ 95%	865	61	571	64	262	61	32	35	
Not currently on ARVs/ Never received HIV med care	247	17	154	17	70	16	23	25	
<b>Ever Hepatitis C</b>									<0.001
Yes	450	32	92	10	290	67	68	74	

## Results (continued)

**Table 2. Adjusted odds ratios of correlates independently associated with recent and ever incarceration experience among women living with HIV enrolled in CHIWOS (n=1,211)**

Variables	Multivariable Model	
	Ever vs. Never AOR (95% CI)	Recent vs. Never AOR (95% CI)
<b>Province interview conducted</b>		
Québec	1.00	1.00
British Columbia	1.18 (0.67, 2.05)	<b>0.25 (0.10, 0.64)</b>
Ontario	1.21 (0.74, 1.98)	0.44 (0.18, 1.05)
<b>Ethnicity</b>		
Caucasian	1.00	1.00
Indigenous	1.26 (0.81, 1.98)	<b>3.74 (1.76, 7.95)</b>
African/Caribbean/Black	0.17 (0.09, 0.31)	<b>0.21 (0.06, 0.83)</b>
Other	0.75 (0.41, 1.38)	0.47 (0.10, 2.33)
<b>Personal gross yearly income</b>		
≥ \$20,000	1.00	1.00
< \$20,000	1.24 (0.82, 1.87)	<b>3.01 (1.07, 8.48)</b>
<b>Housing stability</b>		
Stable	1.00	1.00
Unstable	1.27 (0.69, 2.35)	<b>2.82 (1.27, 6.28)</b>
<b>Current sex work</b>		
No	1.00	1.00
Yes	<b>4.59 (1.92, 10.96)</b>	<b>4.33 (1.48, 12.69)</b>
<b>Current injection drug use</b>		
Never IDU	1.00	1.00
Currently IDU	<b>8.36 (3.60, 19.41)</b>	<b>24.55 (7.85, 76.78)</b>
Not currently IDU but previously	<b>7.01 (4.25, 11.56)</b>	<b>9.44 (3.79, 23.51)</b>
<b>Current antiretroviral use</b>		
Never on ARVs	1.00	1.00
Currently on ARVs	1.59 (0.88, 2.89)	0.64 (0.24, 1.68)
Not currently but previously on ARVs	<b>3.43 (1.34, 8.81)</b>	1.20 (0.27, 5.33)
<b>Current antiretroviral therapy adherence</b>		
≥ 95%	1.00	1.00
< 95%	1.48 (0.94, 2.33)	<b>3.14 (1.55, 6.36)</b>
<b>Probable depression (CES-D)</b>		
No	1.00	1.00
Yes	1.19 (0.83, 1.70)	<b>3.78 (1.90, 7.52)</b>
<b>Ever Hepatitis C</b>		
No	1.00	1.00
Yes	<b>3.88 (2.43, 6.18)</b>	<b>2.86 (1.26, 6.49)</b>

## Discussion

### Main findings:

- 432 (30%) WLWH had ever been incarcerated; 92 (6%) were incarcerated in the past year.
- WLWH with lower income and living in unstable housing are three times more likely to have been recently incarcerated compared to WLWH who have never incarcerated; no significant effect was found for WLWH with a history of incarceration, but not in the past year.
- Women with recent incarceration experience had nearly four times the odds of identifying as Indigenous (vs. Caucasian) and have probable depression symptoms compared to WLWH with no incarceration experience; no significant effect was found for WLWH with a history of incarceration, but not in the past year.
- Similar to existing literature, IDU (current and previous), current sex work, and HCV co-infection are independently associated with both recent and a previous history of incarceration.
- Recently incarcerated WLWH are three times more likely to have lower than optimal (< 95%) ART adherence rates compared with WLWH who have never been incarcerated; no significant effect was found for WLWH with a history of incarceration but not in the past year.

Over one-third of WLWH in this study have been previously incarcerated. Higher odds of experiencing various psychosocial and structural inequities were observed and were especially pronounced for women who were incarcerated in the past year. The strong independent association between recent incarceration and sub-optimal ART adherence underlines the urgent need for continued improvements in prison healthcare and transitional HIV care plans in the community to address the barriers and challenges that women face in maintaining treatment plans, especially during the first year post-release.

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