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Gaps in health coverage for racialized im/migrant sex workers in metro Vancouver: Findings of a community-based cohort study (2014–2021)

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ABSTRACT

Background: Sex workers face substantial health inequities related to sexual health and gender-based violence, many of which are amplified for the large proportion of workers who are racialized im/migrants. While criminalization and stigma are known barriers to health care for this population, we know little about health insurance coverage, and in particular how this relates to im/migration experience and racialization. We examined associations between im/migration status, duration, and racialization on gaps in health insurance coverage in a cohort of women sex workers.

Methods: Analyses used data from a prospective, community-based cohort of women sex workers in Vancouver, BC (Sept 2014-August 2021). Interviewer-administered questionnaires were by experiential (current/former sex workers) and community-based staff. We developed multivariable logistic regression confounder models with generalized estimating equations (GEE) to examine associations between migration and racialization exposures of interest and health insurance coverage.

Results: Of 644 sex workers, 411 (63.8%) reported lacking health insurance coverage for services needed during the 7-year study. In multivariable GEE analysis, precarious im/migration status (adjusted odds ratio (AOR) 2.37, 95% confidence interval (CI) 1.56 – 3.60), recent (AOR 4.22, 95% CI 2.42 – 7.35) and long-term (AOR 2.13, 95% CI 1.54 – 2.96) migration, and being a racialized Asian im/migrant (AOR 3.06, 95% CI 2.14 – 4.39) were associated with recent lack of health insurance coverage.

Conclusion: Policy and program reforms are needed to decouple health insurance access from immigration status, remove mandatory waiting periods for health insurance coverage, and ensure that provincial insurance provides sufficient coverage for marginalized women's healthcare needs.

1. Introduction

Globally, women represent 48.1% of the estimated 280.6 million international migrants (Gender and migration, 2024). Women im/migrants in many destination settings face serious health inequities that are shaped by the precarious circumstances created by structural determinants including immigration status (Hacker et al., 2015), racism (Kirby, 2020; Reitmanova et al., 2015; Wallace et al., 2018), and disproportionate reliance on precarious and highly gendered labor options (Sou et al., 2019). In Canada and many contexts internationally, im/migrant women are greatly over-represented in precarious labor, including sex industry work (Goldenberg et al., 2017).

While extensive research has described the role of limited access to health insurance as a key driver of health inequities experienced by im/migrant communities in the U.S., (Young et al., 2019; Goldman et al., 2005), less attention has been paid to the role of health insurance in research on im/migrant health inequities in the Canadian context (Siddiqi et al., 2009; Machado et al., 2021; Grassby et al., 2021; Caulford and D'Andrade, 2012). Ineligibility for health coverage has been shown to result in negative outcomes including avoidance of care, delay, or partial care, especially when cost is otherwise prohibitive (Kaufman et al., 2000; Magalhaes et al., 2009). However, there remains a

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particular dearth of evidence focused on those facing intersecting precarity related to sex work involvement.

In the province of British Columbia (BC), Canada, despite common portrayals of a 'universal' health system, many recent im/migrants and individuals with precarious im/migration status lack access to publicly-funded provincial health insurance; (Grassby et al., 2021) moreover, such insurance excludes considerable services such as essential medicines, vision and dental care, mental health, and paramedical services. Private insurance fills this gap for those who are able to access such 'supplemental' benefits, typically through employer-sponsored plans (Law et al., 2014). As such, access is limited for individuals in precarious and informal labour, including sex work (van der Meulen, 2011).

Previous research has identified substantial inequities in access to and engagement with HIV and sexually transmitted infection (HIV/STI) prevention, treatment, and care services, primary health care, and violence reporting among im/migrant sex workers in Canada (Sou et al., 2017; McBride et al., 2021a, 2019a, 2020) and internationally, (McBride et al., 2021b; Rocha-Jiménez et al., 2018; Goldenberg et al., 2018) which have been linked to precarious im/migration status,[1] shorter duration of migration, criminalization of sex work, policing, and migration-related marginalization as prominent structural barriers to access. For example the threat of criminal charges or revocation of immigration status as the result of ongoing criminalization of the sex industry in Canada (Goldenberg et al., 2017; McBride et al., 2021a), which intersects with immigration policies that single out and stigmatize sex industry work, results in enhanced precarity and enhanced barriers to health services for im/migrant sex workers.

Although limited, prior research from suggests that both racialization and im/migration status and experiences may be associated with differential access to health insurance coverage among im/migrant sex workers. In Thailand, where sex work is criminalized, im/migrant sex workers face gaps in health insurance compared to Thai-borne sex workers (Barmania, 2013). In Germany, due to combined precarity resulting from immigration and restrictive labor policies related to sex work, male sex workers reported being unable to access coverage and treatment for a wide variety of health issues (Castañeda, 2013). In Canada, among im/migrant workers primarily of Asian origin, precarious im/migration status was associated with increased odds of condom refusal (McBride et al., 2021a), and those who reported lacking health insurance faced 3.5-fold higher odds of facing institutional barriers to health access such as long wait times and disrespectful treatment by providers (Socías et al., 2016). Moreover, in comparison to previous immigrant health research that has largely focused on differences between the im/migrant and locally-born population, previous work by our team has shown important differences in the health status and outcomes of im/migrants based on duration of migration (Goldenberg et al., 2017; Sou et al., 2017), with more recent im/migrants reporting enhanced structural and health related challenges. However, to our knowledge no rigorous epidemiologic studies have evaluated the relationship between im/migration status, im/migration duration, and racialization and health insurance coverage among sex workers. This work is urgently needed in light of the disproportionate health inequities and structural marginalization faced by sex workers (Platt et al., 2020) and im/migrant communities (Clark et al., 2020; Lam, 2020) amid the COVID-19 pandemic and rising Anti-Asian racism and xenophobia (Santos et al., 2021), alongside growing calls for immigration and primary care reform in BC and Canada. As such, the aim of this study was to examine the associations between im/migration status, immigration duration, and racialization on gaps in health care coverage in a large, prospective cohort of women sex workers in Metro Vancouver, Canada.

[1] Defined by any status lacking the rights and entitlements normally associated with permanent residency and citizenship (Goldring et al., 2009)

2. Methods

2.1. Study design

An Evaluation of Sex Workers Health Access (AESHA) is an open, community-based, prospective cohort that began recruitment in January 2010. AESHA was developed through community collaborations with sex work agencies since 2005 (Shannon et al., 2007) and is monitored by a Community Advisory Board of representatives from 15+ community agencies. Eligibility includes identifying as a woman (inclusive of transfeminine identities), exchanged sex for money within the last 30 days and able to provide written informed consent. The study holds ethical approval through the Providence Health Care/University of British Columbia Research Ethics Board and conforms to the principles embodied in the Declaration of Helsinki.

As previously described (McBride et al., 2019b), time–location sampling is used to recruit sex workers through day and late-night outreach to outdoor locations (e.g., streets, alleys), in-call (e.g., massage parlors, microbrothels) and out-call venues (e.g., hotels, bars), and online solicitation spaces across Metro Vancouver. Following an open cohort design, sex workers are actively recruited throughout the life of the cohort. Since inception, community-based staff with lived experience (current/former sex workers) are hired across various roles (e.g., interviewers/outreach workers, sexual health research nurses, coordinators). Our community-based staff employ extensive strategies to maintain rapport, relationships, and retention of cohort participants, including weekly street and van outreach, ongoing phone/text contact, updating of contact information at each visit, and close collaboration with local community partners and outreach teams. Following an open cohort design, sex workers are actively recruited throughout the life of the cohort, following the same strategies as above. Extensive efforts are made to continue migrant and mobile sex workers, including via culturally-tailored multilingual (English/Mandarin) mobile outreach/interview teams and phone interviews.

2.1.1. Questionnaire

Following informed consent, sex workers were invited to complete interview-administered questionnaires at baseline and semi-annually. Additional questions, including a migrant questionnaire for those reporting having been born outside of Canada, were introduced in September 2014 to gain a better understanding of experiences for im/migrant workers. As such, the current study includes semi-annual data collected from September 2014 to August 2021. Interviews were conducted at study offices in Metro Vancouver or a confidential space of the participant's choice (e.g. massage parlours). The questionnaire is administered by a trained interviewer (both sex workers and non-sex workers) and data are securely collected and stored using REDCap (Harris et al., 2009; Harris et al., 2019). The main interview questionnaire contained questions related to socio-demographics, sex work patterns, physical work environment factors, social/ interpersonal environment factors and structural environment factors. The migrant questionnaire asked about migration journeys, time since arrival to Canada, im/migration status, experiences on arrival to BC, and various barriers to health and social services. All participants received an honorarium of $40CAD at each bi-annual visit for their time, expertise, and travel.

2.2. Measures

2.2.1. Outcome variable

The primary outcome was a time-updated variable capturing lack of health insurance coverage for health care in the last six months. Participants were asked about whether they had ever not had insurance coverage for health care and were invited to select from a list of types of care, which included lacking coverage to see a doctor or specialist, emergency room visit, prenatal/pregnancy services, sexual health

services, birth control coverage, and other services (e.g., lab tests, prescriptions).

2.2.2. Independent variables of interest

All demographic data were assessed as time-fixed variables at baseline only; time-updated behavioral and migration variables were assessed as time-updated variables with occurrences in the last 6 month at each semi-annual visit.

Primary exposures: Per growing best practices on the importance of using and interpreting race-based data to assess impacts of racism on health and social inequities (Information, 2022), experiences of racialized vs white participants were assessed to understand how racism towards Asian women of color relates to health insurance coverage. In this sample 84% of all im/migrants and 94% of racialized im/migrants were Asian. Given intersecting identities of oppression, being a racialized woman of color, being a racialized woman of Asian identity (inclusive of South, East and Southeast Asian) and being an im/migrant were assessed as a combined variable to explore how these intersecting identities impact health coverage. Previous research on the precarity of immigration status and the connection to sex work meant that precarious immigration status was an important variable to examine whether immigration and legal policy act as a barrier to health coverage (McBride et al., 2021b). All participants who were not Canadian citizens (permanent residency, temporary residency (including student visa and tourist visa holders), no documents or expired documents) were considered to have precarious/temporary immigration status due the absence of rights guaranteed to Canadian citizens, and which are revocable under criminal charges, for these groups (e.g., legal consequences arising from sex work on security of one's migration status). This variable was time-updated at each study visit, though status remained unchanged for the majority of participants. A time-updated variable for time since migration was categorized as: recent (within 5 years), long-term (greater than 5 years), and no migration (i.e., born in Canada). This was important to understand whether barriers to health coverage persisted for im/migrants over time.

Potential confounders: Time-fixed demographic variables included identifying as trans and other gender-diverse women (vs. cisgender), minority sexual orientation (e.g., lesbian, bisexual, queer), self-identified race (White, Indigenous – Inuit, First Nations, Metis, Black/African, Asian, Latinx, Polynesian), and high school educational attainment (vs. less than high school). All other factors were time-updated at each semi-annual follow-up, capturing current measures and events from the previous six months. These included age, marital status, having financial dependents, moved to BC in the last six months, non-injection drug use, limited English fluency (responding "not very comfortable", "uncomfortable", or "very uncomfortable" to the question, "How comfortable do you currently feel speaking English?"), self-rated health (responding "good", "very good", or "excellent" to the question, "In general, how would you rate your health?"), employment, and primary environment of sex work solicitation (street/outdoor public space, indoor (e.g. bar/nightclub, massage/beauty parlor, micro-brothel), independent (e.g. escort agency, online, phone) or no sex work in the last six months. Finally, multivariable models controlled for whether a study visit took place prior to or after onset of the COVID-19 public health emergency in BC (March 2020).

2.3. Statistical analyses

Baseline descriptive statistics were calculated as frequencies and proportions for categorical variables and measures of central tendencies (i.e., median and interquartile range [IQR]) for continuous variables. These were stratified by the outcome, lack of health coverage for any health care in the last six months and compared using Pearson's chi-square test for categorical variables (or Fisher's exact test for small cell counts) and the Wilcoxon rank-sum test for continuous variables.

Bivariate and multivariable analyses were conducted using logistic regression with generalized estimating equations (GEE) and an exchangeable correlation structure to account for repeated measures among participants over time. GEE analyses were based on 3851 observations. Bivariate analysis examined unadjusted associations between lacking health insurance coverage and migration and racialization exposure variables of interest. Subsequently, separate multivariable confounder models were fit to examine the independent associations between (1) precarious/temporary immigration status, (2) time since migration to Canada, and (3) self-identifying as a racialized woman of color of Asian identity and being an im/migrant to Canada, on our outcome of lack of health care coverage in the last six months. Hypothesized confounders based on the literature were considered for all full multivariable confounder models, as was a variable controlling for potential effects related to COVID-19 pandemic disruptions. The most parsimonious models were determined using the method of Maldonado and Greenland (Maldonado and Greenland, 1993). Given the highly marginalized and hard-to-reach nature of our study population and open cohort design, we undertook sensitivity analyses to assess whether there were significant differences in the characteristics of participants who missed a larger number of study visits ($\geq$4) versus those who did not. Although this was not associated with significant differences in key demographic characteristics of the sample (i.e., age, gender, sexual orientation, education, substance use) or most migration exposures of interest (i.e., racialized Asian im/migrant, precarious/temporary migration status), long-term migrants were overrepresented among those missing $\geq$4 study visits versus those who did not (22.5% vs. 15.7%), whereas the opposite was true for recent migrants (2.5% vs. 7.0%). Analyses were performed in SAS version 9.4 (SAS, Cary, NC); all p-values are two-sided.

3. Results

Among 644 sex workers included in analysis, the median age was 39 (Inter-quartile range: 31–46 years) and 44.6% identified as a sexual minority, while 11.2% identified as trans or a gender minority (Table 1). 17.4% ($n = 112$) were long-term migrants (>5 years in Canada), 5.9% ($n = 38$) were recent migrants ($\leq$ 5 years in Canada), and 75.3% ($n = 485$) were non-migrants. The majority of migrants were primarily from Asian countries, inclusive of South, East and Southeast Asia. 12.4% of participants ($n = 80$) had precarious/temporary status in Canada, and 10.3% ($n = 66$) had limited English fluency. With regards to internal migration, only a small proportion of the sample (2.3%, $n = 15$) had recently moved to BC from another province or Canadian territory.

At baseline, one-quarter (24.7%, $n = 159$) of participants reported that they lacked insurance coverage for least one type of health care. Over the 7-year study, two-thirds (63.8%, $n = 411$) of participants reported that they lacked coverage for health care at least once. The most common types of health care participants reported experiencing gaps in coverage for during the 7-year study included prescription medications (12.3%, $n = 79$), dental/vision (13.0%, $n = 84$), physician or specialist visits (3.0%, $n = 19$), over the counter medications (3.9%, $n = 25$), mental health care (3.0%, $n = 19$), sexual health services (2.5%, $n = 16$), birth control (2.3%, $n = 15$), emergency room visits (1.9%, $n = 12$), lab tests (1.9%, $n = 12$), perinatal care (1.7%, $n = 11$), and other. 16% of participants ($n = 101$) reported facing a coverage gap related to only one of these types of health care; 5% ($n = 33$) reported two; and 3.9% ($n = 25$) reported gaps in coverage related to three or more types of health care.

Both long-term and recent migrants were more likely to report experiencing a lack of health coverage than not, whereas among non-migrants, the reverse was true. Similar patterns in the data were observed for racialized Asian im/migrants, those with precarious/temporary migration status, those with precarious im/migration status, and those with limited English fluency.

In bivariate GEE analyses, precarious/temporary migration status, recent and long-term migration (vs. non-migrant), and being a racialized

Table 1
Baseline characteristics stratified by lacking coverage for health care in the last 6 months among women sex workers (N = 644) in Metro Vancouver, BC, 2014–2021.

Characteristic	Total (%) (n = 644)	Lacked coverage for any health care in the last 6 months	
		Yes (%) (n = 159)	No (%) (n = 485)
Age, *median (IQR)*	39 (31–46)	39 (31–46)	39 (31–46)
2SLGBQ+ / sexual minority	287 (44.6)	74 (46.5)	213 (43.9)
Transfeminine	72 (11.2)	21 (13.2)	51 (10.5)
Married/ common-law	140 (21.7)	29 (18.2)	111 (22.9)
Graduated high school	331 (51.4)	103 (64.8)	228 (47.0)
Main source of income is formal employment*	43 (6.7)	8 (5.0)	35 (7.2)
Non-injection drug use*,†	300 (46.6)	71 (44.7)	229 (47.2)
Good self-rated health	447 (69.4)	102 (64.2)	345 (71.1)
Main solicitation venue*			
Street/public	178 (27.6)	24 (15.1)	154 (31.8)
Indoor	131 (20.3)	54 (34.0)	77 (15.9)
Independent	177 (27.5)	58 (36.5)	119 (24.5)
N/A (no recent sex work)	145 (22.5)	20 (12.6)	125 (25.8)
Precarious immigration status [e]	80 (12.4)	35 (22.0)	45 (9.3)
Time since migration			
Non-migrant	485 (75.3)	96 (60.4)	389 (80.2)
Long-term migrant (>5 years)	112 (17.4)	40 (25.2)	72 (14.9)
Recent migrant (≤ 5 years)	38 (5.9)	20 (12.6)	18 (3.7)
Self-identified race			
White	204 (31.7)	47 (29.6)	157 (32.4)
Indigenous [b]	278 (43.2)	46 (28.9)	232 (47.8)
Women of Color (e.g., Asian, Latinx, Black)[c]	162 (25.2)	66 (41.5)	96 (19.8)
Racialized im/migrant of Asian identity [d]	133 (20.7)	57 (35.9)	76 (15.7)
Limited English fluency	66 (10.3)	30 (18.9)	36 (7.4)
Moved to BC from another province or territory*	15 (2.3)	Suppressed due to privacy	

All data refer to n (%) of participants, unless otherwise specified.
* In the last six months.
† Excludes alcohol and cannabis.
[b] First Nations, Inuit, Métis.
[c] Inclusive of African/Caribbean/Black, Western, South, East & Southeast Asian, Latinx, Polynesian (Maori, Hawaiian, Fijian); given the low proportion of participants who identified as Black, to protect confidentiality this is combined with Women of Colour (WOC) to examine effects of racialization.
[d] Inclusive of South, East and Southeast Asian countries.
[e] Precarious/temporary immigration status defined as any non-Canadian citizen status (permanent residency, temporary residency (including student visa and tourist visa holders), no documents or expired documents).

Asian im/migrant were significantly associated with experiencing recent gaps in health insurance coverage (Tables 2–4). In adjusted multivariable GEE analysis, precarious/temporary immigration status was independently associated with over two-fold higher odds of lacking health coverage (AOR 2.37, 95% CI 1.56 – 3.61). Additionally, recent migrants had over four times the odds of lacking health insurance coverage compared to non-migrants (AOR 4.23, 95% CI 2.42 – 7.37), but long-term migrants still faced over twice the odds (AOR 2.13, 95% CI 1.54 – 2.96) compared to non-migrants, despite being in Canada for over 5 years (Table 3). Finally, racialized im/migrants of Asian identity (including East, South and Southeast Asian) had over three-fold higher odds (AOR 3.08, 95% 2.15 – 4.42) of lacking health coverage compared to all other participants (Table 4).

Table 2
Bivariate and multivariable GEE models for the association between precarious/temporary migration status and lacking health coverage among women sex workers in Metro Vancouver, BC (N = 644), 2014–2021.

	Outcome: Lacked coverage for any health care in last 6 months	
	Unadjusted Odds Ratio (95% CI)	Adjusted* Odds Ratio (95% CI)
Precarious immigration status	3.70 (2.66 – 5.14)	2.37 (1.56 – 3.61)

* Model based on n = 626 and 3691 observations and is adjusted for graduating high school, main place of solicitation in the last 6 months, moved to BC in the last 6 months, and whether the interview visit was conducted prior to or after the start of the COVID-19 public health pandemic.

Table 3
Bivariate and multivariable GEE models for the association between migration timing and lacking health coverage among women sex workers in Metro Vancouver, BC (N = 644), 2014–2021.

	Outcome: Lacked coverage for any health care in last 6 months	
	Unadjusted Odds Ratio (95% CI)	Adjusted* Odds Ratio (95% CI)
Migration Timing		
Recent (<5 years)	6.71 (4.07 – 11.05)	4.23 (2.42 – 7.37)
Long-term (5+ years) (vs non-migrant)	2.58 (2.00 – 3.32)	2.13 (1.54 – 2.96)

* Model based on n = 633 and 3714 observations and is adjusted for graduating high school, good self-rated health, main place of solicitation in the last 6 months, moved to BC in the last 6 months, and whether an interview visit was conducted prior to or after the start of the COVID-19 public health pandemic.

Table 4
Bivariate and multivariable GEE models for the association between being a racialized Asian im/migrant and lacking health coverage among women sex workers in Metro Vancouver, BC (N = 644), 2014–2021.

	Outcome: Lacked coverage for any health care in last 6 months	
	Unadjusted Odds Ratio (95% CI)	Adjusted* Odds Ratio (95% CI)
Racialized im/migrant of Asian identity	3.72 (2.92 – 4.74)	3.08 (2.15 – 4.42)

* Model based on n = 639 and 3743 observations and adjusted for graduating high school, good self-rated health, main place of solicitation in the last 6 months, moved to BC in the last 6 months, and whether an interview visit was conducted prior to or after the start of the COVID-19 public health pandemic.

4. Discussion

In this large, prospective, community-based study, we found that precarious/temporary immigration status, recent and long-term migration, and being a racialized im/migrant woman were all independently and strongly associated with higher odds of experiencing gaps in health insurance coverage; we documented the strongest associations for recent and racialized Asian im/migrant sex workers, who faced over 4-fold and 3-fold higher odds of gaps in health coverage compared to their Canadian-born and non-Asian counterparts, respectively.

This study adds to previous qualitative and epidemiologic research documenting pervasive health inequities and barriers to care among im/migrant sex workers (McBride et al., 2021b) and other populations facing precarity related to im/migration status (Hacker et al., 2015; Grassby et al., 2021; Magalhaes et al., 2009). Our results build on previous studies and a recent systematic review showing that precarious im/migration status and more recent migration are associated with substantial inequities in access and engagement with HIV/STI prevention (Sou et al., 2017), primary care and sexual and reproductive health (Sou et al., 2017; McBride et al., 2021a, 2021a) for im/migrant sex workers. The present study adds to this body of work by providing important new insights regarding the relationship between multiple facets of the im/migration and racialization experience in relation to health insurance coverage that have not been well-featured in previous

work. These results are consistent with a limited number of previous studies that have reported on im/migrant sex workers' access to health insurance, primarily in Europe and Asia (Barmania, 2013; Castañeda, 2013). Our findings, situated in this broader body of evidence, highlight the severe inequities generated by health and immigration policies that preclude im/migrant sex workers from accessing certain health, social, and labour protections and supports in destination settings. The harms of such structural exclusion and marginalization have been brought to the forefront during the COVID-19 pandemic, in which both sex workers and im/migrant communities have faced exacerbated health care barriers alongside inadequate government support for health and economic needs (Platt et al., 2020; Clark et al., 2020; Lam, 2020; Santos et al., 2021).

These findings collectively highlight the ways in which im/migrant sex workers are impacted by the convergence of health policy, im/migration policy, sex work policy, and structural racism. Indeed, our results suggest that for racialized im/migrant sex workers, the effects of structural discrimination created by policies that prevent access to health coverage, intersect with the discrimination, racism and exclusion racialized sex workers already face, further exacerbating health and social inequity. Immigration and health policy reforms are needed to decouple health insurance access from immigration status, which is particularly needed for im/migrant sex workers in the context of compounding precarity and unmet sexual health needs related to sex work criminalization and stigma (McBride et al., 2021b). Participants in this study reported gaps in coverage related to services that would be covered under provincial health insurance (e.g., physician and specialist visits, sexual health visits, perinatal care) as well as 'supplemental' benefits (e.g., prescription medicines, dental, vision, mental health) in BC. In BC, immediate changes are also needed that abolish mandatory 'waiting times' for provincial health insurance for recent migrants to the province (Grassby et al., 2021), and that would allow those who do not qualify for provincial health insurance to access low- or no-cost options for im/migrant-tailored and linguistically appropriate care (De Shalit et al., 2015; Saloner et al., 2020; Polk et al., 2019). Additionally, expanding public and private health insurance options to decrease reliance on employer-sponsored 'supplemental' health insurance are recommended, including expanding provincial health insurance or access to supplemental coverage (e.g., prescriptions, dental) to ensure that existing options provide sufficient options for low or no-cost services to meet marginalized women's healthcare needs.

4.1. Strengths and limitations

Self-reported data have potential for social desirability and recall bias; it is possible that participants may have been less likely to disclose information related to immigration status or other sensitive topics, which would have biased findings towards the null. Furthermore, interviews are administered by staff with lived experience (current/former sex work) and/or strong community experience and are highly trained in rapport and asking sensitive questions with this population to help mitigate this. It is likely that participants enrolled over the course of this longitudinal cohort could be more connected to local health/social supports and could be less likely to go for long periods of time without support in getting health coverage; as such, it is likely that our study provides a conservative estimate of gaps in health coverage in this population. It is also possible that gaps in coverage were underestimated for long-term migrants, who were more likely to miss follow-up visits than non-migrants. Finally, our ability to examine the impacts of the intersection of racialization, immigration status and sex work experience were limited by a relatively small sample size among the number of participants who held multiple of these identities. Further research involving interaction analyses to explore such intersections in greater detail is recommended.

5. Conclusions

In this 7-year, community-based prospective cohort study, we documented strong independent associations between im/migration experiences, racism and lack of health insurance coverage among women sex workers. Immigration and health policy reforms are needed to decouple health insurance access from immigration status, particularly for marginalized im/migrant sex workers who also face compounding precarity related to sex work criminalization and stigma. Immigration and health policy reforms are needed to decouple health insurance access from immigration status, particularly for marginalized and racialized im/migrant sex workers who also face compounding precarity related to sex work criminalization and stigma.

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CRediT authorship contribution statement

Shira M. Goldenberg: Conceptualization, Writing – original draft, Data curation, Funding acquisition, Investigation, Methodology, Supervision. **Maggie Hamel-Smith Grassby:** Conceptualization, Writing – original draft. **Alaina Ge:** Writing – review & editing. **Melissa Braschel:** Formal analysis, Writing – review & editing. **Charlie Zhou:** Formal analysis, Writing – review & editing. **Kate Shannon:** Data curation, Investigation, Methodology, Supervision, Writing – review & editing, Funding acquisition.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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