



Full length article

## Inability to access health and social services associated with mental health among people who inject drugs in a Canadian setting



Linwei Wang<sup>a</sup>, Dimitra Panagiotoglou<sup>a</sup>, Jeong Eun Min<sup>a</sup>, Kora DeBeck<sup>a,b</sup>, M.J. Milloy<sup>a,c</sup>, Thomas Kerr<sup>a,c,d</sup>, Kanna Hayashi<sup>a,c</sup>, Bohdan Nosyk<sup>a,e,\*</sup>

<sup>a</sup> BC Centre for Excellence in HIV/AIDS, 608–1081 Burrard Street, Vancouver, BC, V6Z 1Y6, Canada

<sup>b</sup> School of Public Policy, Simon Fraser University, Simon Fraser University at Harbour Centre, 515 West Hastings Street, Vancouver, BC, V6B 5K3, Canada

<sup>c</sup> Department of Medicine, University of British Columbia, 2775 Laurel Street, Vancouver, BC, V5Z 1M9, Canada

<sup>d</sup> School of Population and Public Health, University of British Columbia, 2206 East Mall, Vancouver, BC, V6T 1Z3, Canada

<sup>e</sup> Faculty of Health Sciences, Simon Fraser University, Blusson Hall, 8888 University Drive, Burnaby, BC, V5A 1S6, Canada

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### ABSTRACT

**Background:** People who inject drugs (PWID) face barriers to healthcare due to reasons including comorbidity. We evaluated access to health and social services by three of the most prevalent comorbid conditions among PWID: HIV, hepatitis C (HCV), and mental health, in an urban setting in Canada.

**Methods:** Data were derived from prospective cohorts of community-recruited PWID between 2005 and 2015. HIV and HCV serostatuses were based on antibody tests, while mental health conditions and inability to access health and social services (barriers to access) were determined by participants' self-report. We employed generalized linear mixed models controlling for confounders to examine associations between health conditions and barriers to access.

**Results:** Among 2494 participants, 1632 (65.4%) reported barriers to access at least once over a median of seven (IQR: 3, 12) semi-annual assessments. Mental health conditions were independently associated with increased odds of reporting barriers (adjusted Odds Ratio (aOR): 1.45, 95% Confidence Interval (CI): 1.32, 1.58), while HIV was not (aOR: 0.96, 95% CI: 0.85, 1.08), and HCV was associated with decreased odds (aOR: 0.80, 95% CI: 0.69, 0.93). The associations between mental health conditions and barriers to access were consistent among PWID without HIV/HCV (aOR: 1.35, 95% CI: 1.10, 1.65), with HCV mono-infection (aOR: 1.55, 95% CI: 1.37, 1.75), and HCV/HIV co-infection (aOR: 1.36, 95% CI: 1.15, 1.60).

**Conclusions:** Targeted strategies to seek and treat mental health conditions in settings that serve PWID, and assist PWID with mental health conditions in navigating healthcare system may improve the publicly-funded health and social services.

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## 1. Introduction

Illicit drug use, particularly injection drug use, is associated with costly health and social impacts. There are an estimated 112,900 active people who inject drugs (PWID) in Canada, accounting for about 0.4% of the Canadian population aged 15 years and older (Public Health Agency of Canada, 2014). About 11% of PWID are

living with HIV, approximately 68% have or have had hepatitis C virus (HCV), and up to 10% are co-infected with HIV and HCV, according to data from 11 sentinel sites across Canada (Public Health Agency of Canada, 2012). Concurrent substance use and mental health disorders are also very common (Crawford et al., 2003). Among those who seek help for an addiction, over 50% report additional mental health conditions (Canadian Centre on Substance Abuse, 2009). Moreover, there is prevalent occurrence of mental health conditions either before or following the diagnosis or treatment of HIV and HCV (Schaefer et al., 2012; World Health Organization, 2008a). Meanwhile, PWID may also experience homelessness, unemployment, physical and sexual abuse, poor family and social relationships, criminalization and incarceration, and stigma and discrimination in healthcare settings (Galea and Vlahov, 2002; Harrison et al., 1997; Neale, 2002; Richardson et al., 2013).

\* Corresponding author at: BC Centre for Excellence in HIV/AIDS, St. Paul's Hospital, 613–1081 Burrard St., Vancouver, BC, V6Z 1Y6, Canada.

E-mail addresses: [lwang@cfenet.ubc.ca](mailto:lwang@cfenet.ubc.ca) (L. Wang),

[dpanagiotoglou@cfenet.ubc.ca](mailto:dpanagiotoglou@cfenet.ubc.ca) (D. Panagiotoglou),

[jmin@cfenet.ubc.ca](mailto:jmin@cfenet.ubc.ca) (J.E. Min), [uhri-kd@cfenet.ubc.ca](mailto:uhri-kd@cfenet.ubc.ca)

(K. DeBeck), [uhri-mjmsm@cfenet.ubc.ca](mailto:uhri-mjmsm@cfenet.ubc.ca) (M.J. Milloy), [uhri-tk@cfenet.ubc.ca](mailto:uhri-tk@cfenet.ubc.ca) (T. Kerr),

[uhri-kh@cfenet.ubc.ca](mailto:uhri-kh@cfenet.ubc.ca) (K. Hayashi), [bnosyk@cfenet.ubc.ca](mailto:bnosyk@cfenet.ubc.ca) (B. Nosyk).

The implementation of harm reduction and aggressive HIV treatment strategies has led to considerable progress in British Columbia (BC), Canada (Lourenco et al., 2014). The number of clients in opioid agonist treatment across the province rose from 2800 in 1996 to almost 14,000 in 2012 (Nosyk et al., 2013). This was accompanied by a reduction in the incidence of HIV among PWID, with the number of new diagnoses falling to just 29 in 2012, from a high of 352 in 1996 (Montaner et al., 2014). As a result, PWID are living longer (Hogg et al., 2008; World Health Organization, 2012) and new challenges to their quality of life have arisen, requiring combined efforts from health and social service providers trained in the care of substance use, medical comorbidity and social problems (Neale et al., 2008). Such challenges are faced by many North American cities which have large numbers of people who use drugs (Coffin et al., 2015; Des Jarlais et al., 2000). In Vancouver, BC's Downtown Eastside (DTES) neighbourhood, where a large proportion of the population regularly uses drugs (Roe, 2009), there are over fifty health and social service providers deliver services in areas of primary care, mental health and addiction, low-barrier gateway and navigation, housing and shelter, communicable disease prevention, and specialized harm reduction and HIV treatment (Vancouver Coastal Health, 2015).

In many settings, PWID face barriers to accessing health and social services at multiple levels, with some difficulties attributed to their distinct health conditions. These include: early HCV treatment guidelines which exclude PWID (Kensington, 1997); clinicians who withhold antiretroviral therapy (ART) from HIV-infected PWID (Westergaard et al., 2012) or regard substance use or HIV-HCV coinfection as a challenge (Kamarulzaman and Altice, 2015; Grebely and Tyndall, 2011); addiction treatment which limits access for people with concurrent mental health and substance use disorders (el-Guebaly, 2004); exposure to correctional facilities which disrupt access to evidence-based care (Milloy et al., 2014); and social and structural barriers such as stigma and discrimination, lack of housing, and fear of criminalization (Harris and Rhodes, 2013; Krusi et al., 2010; Neale et al., 2008; Treloar et al., 2013; Wolfe et al., 2010).

Previous studies have evaluated access to addiction treatment in Vancouver among illicit drug users (Barker et al., 2015; Milloy et al., 2010; Phillips et al., 2014; Prangnell et al., 2016). However, among PWID, there has been limited research in evaluating access to the wide range of health and social services available. Although people with different health conditions have unique treatment needs and face distinct barriers associated with their conditions, variations in access among PWID by health condition have not been examined. Strategies to improve health outcomes through a more integrated health system have been initiated both internationally and locally (National Treatment Agency for Substance Misuse, 2006; Vancouver Coastal Health, 2015). Comprehensive evaluation of PWID's access to the currently existing services, and identifying subgroups of individuals who disproportionately experience increased barriers to access will provide valuable information for the planning and implementation of those strategies.

As such, the current study evaluates PWID's self-reported inability to access health and social services and investigates the relationship between comorbid health conditions and self-reported inability to access health and social services in an urban setting of Vancouver, Canada.

## 2. Materials and methods

### 2.1. Study design and subjects

This analysis uses data on illicit drug users residing in the Greater Vancouver region from a series of ongoing open prospective cohort studies: the AIDS Care Cohort to evaluate Exposure to Sur-

vival Services (ACCESS), the Vancouver Injection Drug Users Study (VIDUS), and the At-Risk Youth Study (ARYS). The three cohorts have followed HIV-seropositive illicit drug users (aged greater than 18), HIV-seronegative PWID (aged greater than 18), and street-involved youth (aged 14–26) who use illicit drugs, respectively, through word of mouth, street outreach, and referrals since 2005 (Strathdee et al., 1997). Sampling and follow-up methodologies have been described in detail previously (Strathdee et al., 1997; Tyndall et al., 2003; Wood et al., 2006a, 2006b). At baseline and semi-annual follow-up, individuals complete an interviewer-administered questionnaire that elicits information pertaining to socio-demographic characteristics, drug use, services utilization, HIV risk behaviors and other exposures and outcomes. The cohort instruments are harmonized across cohorts to facilitate pooled analyses. Participants also provide blood specimens for HIV and HCV serology. Participants are offered an honorarium of \$30 CAD for each study visit. All studies have been approved by the University of British Columbia/Providence Health Care Research Ethics Board.

All participants recruited between September, 2005 and May, 2015 who completed their baseline assessment, and who ever injected drugs during the study period were included in the study. Observations were excluded if individuals never injected drugs at the time of assessment, or their self-reported inability to access health and social services, or covariates of interest were missing.

### 2.2. Measures

The primary outcome of interest was a binary variable capturing self-reported inability to access health and social services (barriers to access) in the last six months determined from the question "In the last six months, was there a time you were in need of a service but could not obtain it?". In addition, participants were asked to specify the service they were unable to obtain: "If yes, can you tell me what it was; check all that apply: counsellor; drug treatment facility (e.g., detox, rehab); hospital/doctor/nurse/clinic; dentist; optometrist; housing; needle exchange; peer group/support group; police/parole officer; social worker; study staff; welfare; food services; other (specify)". We selectively categorized those who answered counsellor, drug treatment facilities, dentists, optometrists, hospital/doctor/nurse/clinic and needle exchange as being unable to access health services, and those who answered housing, food services, welfare and social worker as being unable to access social services for further investigation.

Our primary covariates of interest were the three most prevalent comorbid health conditions among PWID: HIV, HCV and mental health conditions (Canadian Centre on Substance Abuse, 2009; Public Health Agency of Canada, 2012; Schaefer et al., 2012; World Health Organization, 2008a). Diagnosis of HIV and HCV were based on antibody tests conducted at each study visit. Mental health conditions were determined by a binary composite indicator constructed to capture any of the following self-reported markers of mental health conditions in the last six months: 1) diagnosis with one of the following mental illnesses: depression, anxiety, obsessive compulsive disorder, schizophrenia, post-traumatic stress disorder, personality disorder, bipolar, attention deficit disorder, oppositional defiance disorder, other hyperactive disorder; 2) receipt of mental health treatment; 3) suicide attempt or ideation; and 4) hospitalization for a mental illness.

To examine the cumulative effects and interactions between health conditions, a continuous indicator was constructed to capture the number of conditions per individual at each follow-up and a categorical indicator was constructed representing eight mutually exclusive patient subgroups with the occurrence of: HIV; HCV; mental health conditions; HIV and HCV; HIV and mental health con-

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