

RESEARCH

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largest share of new HCV infections, with HCV prevalence among PWID estimated at 70–90% [4–6]. PWID often live in marginalized conditions where structural barriers make it difficult to access healthcare services, such as HCV testing and counseling for results [7–9].

HCV is primarily transmitted through the sharing of drug-injecting equipment [10]. Among PWID, HCV infection often occurs within injecting partnerships—two or more people who regularly inject drugs together—where individuals may share needles, syringes, and other equipment [11]. A fundamental barrier to HCV status disclosure is the lack of awareness about HCV, compounded by the two-step diagnostic process [12]. The initial rapid fingerstick HCV antibody test is practical but necessitates a follow-up venipuncture HCV RNA test for infection diagnosis.¹ Additionally, spontaneous clearance of HCV infection and the potential for reinfection complicate disclosure practices [4, 13]. Because a subset of individuals can spontaneously clear the infection without treatment and reinfection remains possible, regular testing is essential to ensure individuals are accurately reporting their current infection status [14, 15]. By examining self-reported disclosure patterns within injecting partnerships, this study aims to provide insights into the role of HCV status disclosure in prevention efforts and how perceived versus actual infection status may shape risk behaviors.

Interpersonal communication within the social networks of PWID has been identified as a critical factor for increasing HCV awareness and facilitating access to care, particularly when trust and frequent interaction are present in these relationships [16]

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previous HCV test or had missing data for this question (34 participants).

HCV Status Disclosure: We created a three-level dyadic measure of HCV status disclosure within injecting partnerships by pairing responses to the question, "Have you told your partner your HCV status?" This measure includes Mutual HCV status disclosure, one-way HCV status disclosure, and no HCV status disclosure.

Injecting-related behaviors

Injecting-related behaviors were assessed at the individual level and are summarized in Table 1. Partner-

Table 2 Partnership-level characteristics (N= 131)

Characteristic	Overall, n (%) N= 131	San Francisco, n (%) N=80	Montreal, n (%) N=51	p-value
Partnership age composition				
Both under 30	62 (47.33)	57 (71.25)	5 (9.80)	< 0.001
One under 30	33 (25.19)	23 (28.75)	10 (19.61)	
Both 30 and over	36 (27.48)	0 (0.00)	36 (70.59)	
Missing	0 (0.00)	0 (0.00)	0 (0.00)	
Partnership gender composition				
Male/Male	73 (55.73)	42 (52.50)	31 (60.78)	0.172
Female/Female	23 (17.56)	17 (21.25)	6 (11.76)	
Male/Female	20 (15.27)	10 (12.50)	10 (19.61)	
Male/ Trans	1 (0.76)	0 (0.00)	1 (1.96)	
Missing	14 (10.69)	11 (13.75)	3 (5.88)	
Lived together in past month				
Yes	83 (63.36)	53 (66.25)	30 (58.82)	0.390
No	48 (36.64)	27 (33.75)	21 (41.18)	
Sex together in past month				
Yes	35 (26.72)	20 (25.00)	15 (29.41)	0.578
No	96 (73.28)	60 (75.00)	36 (70.59)	
Any equipment sharing within partnership in past month				
Yes	93 (70.99)	54 (67.50)	39 (76.47)	0.270
No	38 (29.01)	26 (32.50)	12 (23.47)	
Ever shared needle/syringe within partnership				
Yes	18 (13.74)	10 (12.50)	8 (15.69)	0.606
No	113 (86.26)	70 (87.50)	43 (84.31)	
Partnership HCV disclosure				
Both members disclosed	103 (78.63)	61 (76.25)	42 (82.35)	0.873
One member disclosed	16 (12.21)	11 (13.75)	5 (9.80)	
Neither members disclosed	6 (4.58)	4 (5.00)	2 (3.92)	
Missing	6 (4.58)	4 (5.00)	2 (3.92)	
Partnership HCV serostatus composition				
Concordant (-/-)	40 (30.53)	31 (38.75)	9 (17.65)	0.033
Discordant	19 (14.50)	13 (16.25)	6 (11.76)	
Concordant (+ / +)	53 (40.46)	26 (32.50)	27 (52.94)	
Missing	19 (14.50)	10 (12.50)	9 (17.65)	
Partnership HIV serostatus composition				
Concordant (-/-)	84 (64.12)	55 (68.75)	29 (56.86)	0.007
Discordant	7 (5.34)	1 (1.25)	6 (11.76)	
Concordant (+ / +)	3 (2.29)	0 (0.00)	3 (5.88)	
Missing	37 (28.24)	24 (30.00)	13 (25.49)	
Partnership HIV disclosure				
Both members disclosed	90 (68.70)	51 (63.75)	39 (76.47)	0.409
One member disclosed	17 (12.98)	11 (13.75)	6 (11.76)	
Neither member disclosed	21 (16.03)	16 (20.00)	5 (9.80)	
Missing	3 (2.29)	2 (2.50)	1 (1.96)	

partnerships where only one partner disclosed (12%), and 6 partnerships where neither partner disclosed (5%). Qualitatively, San Francisco had more one-way disclosures than Montreal (14% vs. 10%), while

Montreal had more mutual disclosures than San Francisco (82% vs. 76%). Neither member disclosure behaviors similar across both sites. Mutual HCV disclosure occurred in 79% of partnerships, with higher rates in

HCV-concordant positive partnerships (+/+) (40%).
Disclosure was lower in discordant partnerships (15%)
and HCV-negative concordant partnerships (-/-) (30%).

patterns observed for one-way disclosures. Notably, concordant HCV-positive partnerships exhibited the highest rates of mutual disclosure, while discordant partnerships had the lowest. Additionally, the proportion of partnerships where neither member disclosed their HCV status was highest among concordant HCV negative partnerships, contrasting with the lowest occurrence among concordant HCV positive partnerships. These findings suggest that, despite a generally high prevalence of HCV disclosure, variations in disclosure behaviors become more evident when considering the HCV status of individuals within injecting partnerships.

Our findings align with existing literature on HCV-status disclosure among PWID in high-income urban settings. For instance, a study in New South Wales, Australia reported that approximately three-quarters of participants disclosed their HCV status to non-injecting partners or family members [22]. Similarly, within urban environments in Hungary and Lithuania, high rates of HCV-status disclosure were documented, with notable differences based on cultural contexts and ethnic groups [25]. These results emphasize the importance of investigating correlates of HCV disclosure within US urban contexts, including interpersonal factors and individual characteristics like race or ethnicity.

Increased HCV status disclosure has the potential to inform individuals' risk behaviors, facilitating safer injecting practices and reducing opportunities for HCV transmission [21, 26]. However, fewer studies have explored the factors associated with HCV disclosure compared to HIV disclosure and how these factors can inform strategies for enhancing HCV disclosure and preventing transmission. Comparing HCV-status disclosure to HIV-status disclosure, we found that overall HIV disclosure rates were low in both San Francisco and Montreal despite most participants knowing their HIV serostatus. This disparity may be attributed to the considerably higher population rates of HCV infection in this population compared to HIV; in 2019, the HCV seroprevalence among PWID in San Francisco was 67.4%, compared to a 10.1% seroprevalence of HIV [27, 28]. Similarly, in 2017 the HCV seroprevalence among PWID in Montreal was 69%, compared to a 21.5% seroprevalence of HIV in 2019 [29, 30].

However, a crucial point is the distinction between HCV antibody testing and viral load (RNA) testing [31]. Antibody tests indicate past exposure, while RNA tests confirm active infection, and encouraging disclosure based on antibody status could lead to unnecessary stigma, particularly for individuals who have cleared the infection [32]. The increasing availability of point-of-care RNA testing may help mitigate this issue and allow individuals to base disclosure decisions on more accurate

indicators of their current infection status [33, 34]. While both HCV and HIV disclosure are influenced by stigma and can impact interpersonal relationships, the underlying factors affecting disclosure differ. HIV disclosure studies often focus on sexual partners, which may not be directly applicable to understanding HCV status disclosure due to the lower probability of sexual transmission of HCV [35, 36]. Moreover, legal mandates require HIV disclosure in specific healthcare settings, potentially affecting individuals' willingness to disclose their HCV status, whereas no such mandates exist for HCV [35, 37].

This difference impacts how stigma and trust influence disclosure decisions in injecting partnerships. Incorrect perceptions of HCV status, such as believing both partners are positive when one is negative, may increase transmission risk [38]

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Authors' contributions

M.S. and R.K. wrote the main manuscript text and conducted the analyses. M.S. prepared Tables 1, 2 and Fig. 1. NPM reviewed code. All authors reviewed the manuscript.

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Data availability

The datasets used and/or analysed during the current study available from the corresponding author on reasonable request.

Declarations

Ethical approval and consent to participate

All research protocols were reviewed and approved by the University of California, San Francisco Institutional Review Board, and the Centre Hospitalier de l'Université de Montréal (CHUM) (Study number: 14–12999).

Competing interests

The authors declare no competing interests.

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