

# Characteristics of Injection Drug Users Who Participate in Drug Dealing: Implications for Drug Policy<sup>†</sup>

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**Abstract**—So-called “balanced” drug policy couples enforcement initiatives targeting drug dealers with health-focused interventions serving addicted individuals. There are few evaluations of this approach, and little is known about how these two populations may overlap. We evaluated factors associated with drug dealing among injection drug users (IDUs) in Vancouver, Canada, and examined self-reported drug-dealing roles and reasons for dealing. Among 412 IDUs seen from March through December 2005, 68 (17%) had dealt drugs during the previous six months. Variables independently associated with drug dealing included: recent incarceration (adjusted odds ratio [AOR] = 2.9; 95%CI: 1.4 – 6.0); frequent heroin injection (AOR = 2.5; 95%CI: 1.4 – 4.6); frequent cocaine injection (AOR = 2.0; 95%CI: 1.1 – 3.8); and recent overdose (AOR = 2.7; 95%CI: 1.0 – 7.3). The most common drug-dealing roles were direct selling (82%), middling (35%), and steering (19%), while the most common reasons for dealing included obtaining drugs (49%) and money (36%). Drug dealing among IDUs was predicted by several markers of higher intensity addiction, and drug-dealing IDUs tended to occupy the most dangerous positions in the drug-dealing hierarchy. These findings suggest that elements of “balanced” drug policies may undermine each other and indicate the need for alternative interventions.

**Keywords**—drug dealing, drug policy, injection drug use, Vancouver

Illicit injection drug use has been associated with major health and social challenges in urban settings throughout the world (Fischer, Rehm & Blitz-Miller 2000). For instance, high rates of human immunodeficiency virus (HIV) and drug-related overdose among injection drug users (IDUs)

have prompted the development of an array of innovative and controversial public health initiatives such as syringe exchange programs and supervised injection facilities (Broadhead et al. 2002; Des Jarlais 2000). Further, open drug markets and drug-related crime have created community

<sup>†</sup>The authors would particularly like to thank the VIDUS participants for their willingness to be included in the study, as well as current and past VIDUS investigators and staff. We would specifically like to thank Deborah Graham, Tricia Collingham, Steve Kain, and Calvin Lai for their research and administrative assistance. The study was supported by the Canadian Institutes of Health Research and the US National Institutes of Health. Thomas Kerr is supported by a Michael Smith Foundation for Health Research Scholar Award and Canadian Institutes of Health Research New Investigator Award. William Small is supported by a Michael Smith Foundation for Health Research Doctoral Research Award.

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and public order challenges leading to calls for intensified enforcement efforts (Wood et al. 2004a).

In response to the ongoing harms associated with injection drug use and the increased recognition that injection drug use represents a public health issue, a growing number of countries are developing “balanced approaches” to drug policy (Wood & Kerr 2006). These policies typically emphasize the equal importance of enforcement initiatives that target drug dealers and health-focused interventions that focus on drug users. Included are the popular “Four Pillar” approaches to drug policy that have been implemented in Switzerland and in Vancouver, Canada (Wood & Kerr 2006). These approaches include programs and policies under the broad areas of enforcement, prevention, treatment, and harm reduction.

A common criticism of such approaches to drug policy is that they fail to recognize the role enforcement approaches can play in generating health-related harm among drug users (Cohen & Csete 2006). Studies from various settings have shown that enforcement efforts commonly directed at drug users, such as police crackdowns within drug markets, can generate an array of health-related harms among IDUs (Kerr, Small & Wood 2005). Further, in light of a small number of studies indicating that some drug users engage in illegal activities such as drug dealing to generate income and finance their ongoing drug use (Friedman et al. 2002, 1998), there is potential for enforcement activities to adversely impact IDUs, despite claims by some police forces that their crackdown initiatives exclusively target drug dealers (Howell 2006).

The city of Vancouver has recently implemented a Four Pillar drug strategy (Wood & Kerr 2006), and police crackdowns within Vancouver’s largest open drug market have been initiated (Wood et al. 2004b). However, the extent of overlap between drug-using and drug-dealing populations in this and many other settings has not been thoroughly examined. Therefore, the present authors sought to evaluate the prevalence and correlates of drug dealing among local IDUs. To further explore the potential harms associated with drug dealing among this population, we also sought to identify the self-reported roles that IDUs assume within the drug-dealing hierarchy and the reasons given for undertaking drug dealing.

## METHODS

Beginning in May 1996, persons who had injected illicit drugs in the previous month were recruited into the Vancouver Injection Drug Users Study (VIDUS), a prospective cohort study that has been described in detail previously (Tyndall et al. 2003; Wood et al. 2001). Briefly, persons were eligible for the VIDUS study if they had injected illicit drugs at least once in the previous month, resided in the greater Vancouver region, and provided written informed

consent. At baseline and semiannually, subjects provide blood samples and complete an interviewer-administered questionnaire. Participants receive C\$20 for each study visit. The questionnaire elicits demographic data as well as information about drug use, HIV risk behavior, and drug treatment. The study has been approved by the University of British Columbia’s Research Ethics Board. The present analyses are restricted to those participants who completed a follow-up visit during the period March 1, 2005 to December 31, 2005.

Sociodemographic characteristics considered in the analyses included: age, gender, ethnicity (Aboriginal versus other), unstable housing, residence in the Downtown Eastside, sex work involvement, HIV status, and recent incarceration. As in our previous analyses, unstable housing was defined as living in single room occupancy hotels, shelters, and being homeless (Wood et al. 2001). Behavioral and drug use variables, based on activities in the last six months, included: frequency of cocaine and heroin injection, binge drug use, syringe borrowing, syringe lending, accidental overdose, receiving help injecting, and participation in addiction treatment. As in our previous work (Wood et al. 2001), persons who reported injecting cocaine or heroin once or more per day were defined as frequent cocaine and heroin injectors, respectively.

Univariate and multivariate statistics were used to determine factors associated with participation in drug dealing. Categorical explanatory variables were analyzed using Pearson’s chi-square test and continuous variables were analyzed using the Wilcoxon rank sum test. We then fitted a logistic regression model to evaluate variables that were independently associated with this risk behavior. Variables found to be associated with drug dealing in univariate analyses at  $p < 0.05$  were entered into a fixed logistic model. All reported  $p$ -values are two-sided.

Finally, all participants who reported participation in drug dealing were asked to indicate which roles they assumed in the drug-dealing hierarchy. The structure of drug dealing in Vancouver is complex and includes an array of roles. The roles considered here included: direct selling; holding; middling; steering; enforcing; cooking/packaging/producing; and supplying. Direct selling involves collecting money for drugs sold. Holding refers to keeping drugs prepared for sale on one’s person, often for another person who engages in direct selling. Middling involves connecting purchasers with sellers or conducting sales (usually involving small quantities) on behalf of sellers. Steering refers to guiding potential buyers to individuals engaging in direct selling. Steering may also involve keeping a watch for police. Enforcing refers to the collection of payment for drugs through intimidation (e.g., threats of violence) or actual violence. Cooking/packaging/producing involves participation in the production or preparation of drugs for selling. Supplying refers to providing drugs to sellers. Participants



**TABLE 1**  
**Univariate Analyses of Sociodemographic Characteristics Associated with Drug Dealing**

Characteristic	Did Not Deal n (%) n = 344	Did Deal n (%) n = 68	Odds Ratio (95% CI)
Age (Years)			
Median	39.3	36.5	0.9 (0.9 - 1.0)
Inter-quartile Range	15.9	20.5	
Gender			
Male	190 (84)	37 (16)	
Female	154 (83)	31 (17)	1.0 (0.6 - 1.7)
Aboriginal Ethnicity			
No	240 (83)	50 (17)	
Yes	104 (85)	18 (15)	0.8 (0.4 - 1.4)
Unstable Housing			
No	196 (88)	26 (12)	
Yes	148 (78)	42 (22)	2.1 (1.2 - 3.6)
Incarceration*			
No	312 (86)	49 (14)	
Yes	32 (63)	19 (37)	3.7 (1.9 - 7.1)
Sex Work Involvement*			
No	303 (84)	57 (16)	
Yes	41 (79)	11 (21)	1.4 (0.6 - 2.9)
Residing in DTES			
No	195 (88)	27 (12)	
Yes	149 (78)	41 (22)	1.9 (1.1 - 3.3)
HIV-Positive			
No	252 (84)	50 (16)	
Yes	92 (84)	18 (16)	1.9 (1.1 - 3.3)

\*Refers to behavior in the past six months.

engaging in dealing were also asked to indicate their reasons for participating in drug dealing. Participants were able to provide more than one answer to the two aforementioned questions.

## RESULTS

A total of 412 active IDUs completed a follow-up during the period from March 1, 2005 to December 31, 2005 and were eligible for this analysis. Included were 185 (45%) women, and the median age of these participants was 39 years. Among this population, 68 (17%) had participated in drug dealing during the last six months.

The univariate analysis of sociodemographic characteristics of study participants is shown in Table 1. As shown here, factors positively associated with drug dealing included: unstable housing (odds ratio [OR] = 2.1, 95% confidence interval [CI]: 1.2–3.6); recent incarceration (OR = 3.7, 95% CI: 1.9–7.1); and residence in the Downtown Eastside (OR = 1.9, 95% CI: 1.1–3.3). We found no evidence of association between drug dealing and age, gender, ethnic background, and sex work involvement.

Univariate analyses of drug-use-related variables are shown in Table 2. As shown here, behavioral characteristics that were positively associated with drug dealing included: frequent heroin injection (OR = 3.7, 95% CI: 2.1–6.4); frequent cocaine injection (OR = 2.8, 95% CI: 1.5–4.9); binge drug use (OR = 2.2, 95% CI: 1.1–4.2); syringe lending (OR = 3.2, 95% CI: 1.1–9.2); recent overdose (OR = 4.2, 95% CI: 1.7–10.4); and receiving help injecting (OR = 3.2, 95% CI: 1.7–5.8).

Variables that were independently associated with drug dealing in logistic regression analyses are shown in Table 3. As indicated, recent incarceration (adjusted odds ratio [AOR] = 2.9, 95% CI: 1.4–6.0), frequent heroin injection (AOR = 2.5, 95% CI: 1.4–4.6), frequent cocaine injection (AOR = 2.0, 95% CI: 1.1–3.8), and recent overdose (AOR = 2.7, 95% CI: 1.0–7.3) all remained positively associated with drug dealing in multivariate analyses. The most common self-reported drug-dealing roles were: direct selling (82%); middling (35%); and steering (19%). The most common reasons given for participating in drug dealing included obtaining illicit drugs (49%) and money (36%).



**TABLE 2**  
**Univariate Analyses of Drug Use Characteristics Associated with Drug Dealing**

<b>Characteristic</b>	<b>Did Not Deal n (%) n = 344</b>	<b>Did Deal n (%) n = 68</b>	<b>Odds Ratio (95% CI)</b>
Frequent Heroin Injection*			
No	272 (89)	34 (11)	
Yes	72 (68)	34 (32)	3.7 (2.1 - 6.4)
Frequent Cocaine Injection*			
No	288 (87)	44 (13)	
Yes	56 (70)	24 (30)	2.8 (1.5 - 4.9)
Binge Drug Use*			
No	305 (85)	53 (15)	
Yes	39 (72)	15 (28)	2.2 (1.1 - 4.2)
Syringe Borrowing*			
No	329 (84)	65 (16)	
Yes	15 (83)	3 (17)	1.0 (0.2 - 3.5)
Syringe Lending*			
No	334 (84)	62 (16)	
Yes	10 (62)	6 (38)	3.2 (1.1 - 9.2)
Recent Overdose*			
No	332 (85)	59 (15)	
Yes	12 (57)	9 (43)	4.2 (1.7 - 10.4)
Require Help Injecting*			
No	302 (87)	47 (13)	
Yes	42 (67)	21 (33)	3.2 (1.7 - 5.8)
Any Addiction Treatment			
No	157 (84)	29 (16)	
Yes	187 (83)	39 (17)	1.1 (0.6 - 1.9)

\*Refers to behavior in the past six months.

## DISCUSSION

In the present study, we found that 17% of active IDUs participating in this study engaged in drug dealing during the six months prior to their interview. Variables independently and positively associated with drug dealing included recent incarceration, frequent heroin injection, frequent cocaine injection, and recent overdose. Drug-dealing IDUs most commonly engaged in direct selling, middling, and steering for the purposes of obtaining illicit drugs and generating money.

The present study raises several concerns regarding the local “balanced” drug strategy, since it demonstrates that those individuals being targeted by enforcement interventions are also commonly individuals who carry several markers of higher intensity addiction. In addition, individuals engaging in drug dealing possess a variety of characteristics that put them at risk for an array of adverse health outcomes (Friedman et al. 2002, 1998). Specifically, incarceration, frequent heroin injection, and frequent cocaine injection are variables that have been associated with elevated risk for HIV infection (Tyndall et al. 2002). This subgroup of IDUs may also be likely to experience high

rates of morbidity and mortality resulting from drug-related overdose (Darke & Hall 2003).

It is also notable that IDUs in this study who participate in drug dealing typically assume the lowest level and most visible and dangerous roles within the drug-dealing hierarchy. Direct selling, middling, and steering all occur at street level, and therefore these IDUs may be more likely to experience violence associated with the drug market and confrontations with police (Kerr, Small & Wood 2005; Erickson 2001). Previous studies have shown that the majority of violence that occurs among drug users is related to drug-market dynamics (Erickson 2001), and IDUs are also known to frequently experience violence during encounters with police (Cohen & Csete 2006; Kerr, Small & Wood 2005).

The findings of this study indicate that so-called “balanced approaches” to drug policy, such as the Four Pillar strategy implemented recently in Vancouver, contain elements that can potentially undermine each other. Aside from the previously noted health-related harms associated with interactions that occur between IDUs and police (Kerr, Small & Wood 2005), police crackdowns are known to displace IDUs away from essential public health programs, including HIV prevention programs such as needle exchanges



**TABLE 3**  
**Logistic Regression Analyses of Factors Associated with Drug Dealing**

Characteristic	Adjusted Odds Ratio	95% Confidence Interval
Recent Incarceration		
No		
Yes	2.9	1.4 – 6.0
Frequent Heroin Injection		
No		
Yes	2.5	1.4 – 4.6
Frequent Cocaine Injection		
No		
Yes	2.0	1.1 – 3.8
Recent Overdose		
No		
Yes	2.7	1.0 – 7.3

Model was adjusted for unstable housing, syringe lending and residing in the DTES.

and overdose prevention programs such as safer injection facilities (Kerr, Small & Wood 2005; Wood et al. 2004b). Further, arresting drug-dealing IDUs may serve to increase rates of HIV infection, as high-risk injecting is known to occur in prisons in many countries (Wood et al. 2005; Small et al. 2005a). The risk for HIV transmission within prisons is exacerbated by the fact that many effective HIV prevention services, such as syringe exchange programs, have not been implemented in correctional settings within Canada (Small et al. 2005b).

There are several implications of this study. First, novel and alternative criminal justice and health interventions are now needed to ensure that individuals who are addicted to drugs and are participating in drug dealing are able to obtain health-focused support in place of arrest and incarceration. Although some interventions of this kind, such as arrest referral schemes and drug action teams, have been implemented, evaluations to date have yielded mixed results (Kerr, Small & Wood 2005). As well, existing interventions have been criticized because they are often expensive and, more importantly, because they typically rely on coercive methods that fail to respect individual rights (Christie & Anderson 2003). Among the more popular alternative justice approaches are drug courts, although recent evaluations of drug courts have raised serious concerns regarding their effectiveness (Anderson 2001). A potentially more effective alternative approach could involve police referring drug-dealing IDUs to intensive case management in place of arrest (Robles et al. 2004; Malta et al. 2003). Low-threshold employment programs may also help to provide alternatives to drug dealing for some individuals, given that many IDUs in this study reported engaging in drug dealing as a means of generating income (Reif et al. 2004). Such programs have been successfully introduced in some settings. In Frankfurt, Germany, for example, drug users in supportive housing programs are able

to take on simple tasks such as cleaning. Once individuals are able to sustain some level of occupational activity, they are given opportunities to take on more complex work that comes with greater pay (e.g., cooking, working on landscape agricultural crews). In Vancouver, drug users are also given opportunities to take on short shifts (usually four hours in length) in various harm reduction programs, including the local safe injection facility and needle exchanges. However, there are, in most settings, few occupational opportunities for IDUs, and therefore opportunities that initially place few demands in terms of required training and time commitment may help present alternatives to drug dealing. Lastly, alternative regulatory approaches to the control of illicit drug use may also alleviate the “internal inconsistency” in balanced approaches to drug policy (Cohen & Csete 2006). There has been growing interest in such approaches in recent years, as the harms associated with drug prohibition have been clearly illustrated (Haden 2006; Wodak 2001).

While programs that provide alternatives to drug dealing (e.g., low threshold employment programs) may have potential to reduce the harms associated with drug dealing at the individual level, the profits derived from drug dealing may encourage others to quickly assume the drug-dealing roles vacated by others. Therefore, the impact of such programs on the overall prevalence of drug dealing may be limited. Further, as long as drugs remain illegal, it is likely that a truly internally consistent approach to drug policy will not be attainable. In light of these facts, we suspect that broad alternative regulatory approaches, in which illicit drugs are regulated and prescribed by medical professionals, have the greatest potential to reduce profitability of illicit drug sales and thereby reduce the overall prevalence of drug dealing. Such approaches may also help to reduce the incidence of harmful interactions between police and drug dealers.



This study has several limitations. First, as with most other cohort studies involving IDUs, VIDUS is not a random sample, and therefore these findings may not generalize to other IDU populations. Second, the present study was restricted to a cross-sectional study, and therefore additional analyses are needed to prospectively determine the health impacts that may be associated with drug dealing. Third, this study relied on self-reported information and is hence susceptible to socially desirable reporting. This may have led to an underestimation of the prevalence of drug dealing among IDUs in the present study.

In summary, a substantial proportion of individuals participating in this study reported that they engage in drug

dealing, and these individuals carried several markers for higher levels of addiction as well as several markers for adverse health outcomes, including HIV and overdose risk. These individuals may also be likely to experience additional harm associated with drug-market and police-related violence, as they tend to occupy low-level and highly visible drug-dealing roles. These findings suggest that “balanced approaches” to drug policy may include elements that may greatly undermine each other, and indicate the need for alternative criminal justice interventions and evaluation of low-threshold vocational programming for IDUs, as well as alternative regulatory approaches to the control of illicit drug use.

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