

HIV and Hepatitis C Outbreaks Among High-risk Youth in Vancouver Demands a Public Health Response

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ABSTRACT

This paper is a call to action. We present Kaplan Meier cumulative HIV and HCV incidence rates among youth aged ≤ 24 participating in the Vancouver Injection Drug Users Study (VIDUS), and demonstrate the alarming increase in HIV and HCV incidence rates in addicted youth. The incidence rates among VIDUS youth were 11.1% for HIV and 52.1% for HCV at 36 months after enrollment in the study. The growing epidemic of HIV and HCV among addicted youth calls for policy-makers and program planners to concentrate resources into prevention and treatment of blood-borne infections among British Columbia's vulnerable youth. Without focussing such resources, further HIV and HCV infections and subsequent higher health care costs appear imminent.

During 2001 and 2002, we published a series of research studies highlighting the HIV and hepatitis C (HCV) epidemics occurring among high-risk youth in Vancouver.¹⁻³ In brief, data from these studies showed that youth who use injection drugs and are at highest risk for becoming HIV infected were: Aboriginal,² female, involved in sex work, those with a history of sexual abuse and those engaged in daily polydrug use.³ Youth particularly vulnerable to HCV infection were those who use injection cocaine at least daily, require help to inject their drugs and have a sexual partner who also uses injection drugs.¹

The number of youth infected with HIV and HCV in a Canadian city reported from these studies is alarming, and response to these growing epidemics has been slow. Despite the international notoriety that Vancouver has received for its under-age and drug-dependent sex trade workers, there remains a lack of treatment programs specifically designed for youth involved in sex trade work. A recent forum to discuss prevention and treatment that brought together women and youth experienced with drug dependence and sex trade work as well as policy-makers, politicians and government officials, called for the addition of youth treatment centres.⁴ This has not yet happened. There is strong evidence suggesting that the increasing rates of HIV and HCV are not likely to disappear and will continue to create an increasing burden of suffering for our youth as well as our health care system.

We undertook the current analyses to visually present the rates of HIV and HCV incidence among youth participating in the Vancouver Injection Drug Users Study (VIDUS). These analyses have not been previously published and we hope that their presentation in a visual format will illustrate the magnitude of the epidemics occurring among Vancouver's high-risk youth, and will demonstrate to policy-makers that the current resources available to vulnerable youth have not been able to stem the tide of new infections.⁵ Data were collected through the VIDUS, an open cohort study of injection drug users that began collecting data in May 1996 and has been previously described.^{6,7} As previously defined, those VIDUS participants aged 24 years and younger at enrolment were considered "youth".¹ Cumulative inci-

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dence rates of HIV and HCV infection among VIDUS youth were estimated using Kaplan-Meier methods.

Overall, 241 youth were enrolled during the study period, among whom 25 (10%) were baseline HIV positive and 110 (46%) were baseline HCV positive. Thus, there were 216 (90%) who were HIV negative and 131 (54%) who were HCV negative at enrolment. During the study period, 158 HIV baseline negative youth came back for at least one follow-up visit, 18 (11%) of whom became HIV positive; 81 HCV baseline negative youth were followed, 36 (44%) of whom became HCV positive. The cumulative incidence rates were 11.1% and 52.1% after 36 months of follow-up, respectively (Figure 1). In total, there were 43 (23%) and 146 (76%) youth found to be HIV and HCV positive, respectively (data not shown).

Vancouver's downtown eastside has one of the highest HIV rates among injection drug users in the developed world and is home to an estimated 1,000 street youth.¹⁰ In previous publications, we have noted that HCV infection occurs within 1-2 years of starting to inject and HIV infection occurs within the first 4 years of injecting among high-risk youth.^{1,2} Given the vulnerability of drug-dependent youth in Vancouver to HIV and HCV infections, concentrating resources into prevention and intervention may be cost-effective in the long term. We believe, given the avoidable health concerns and associated substantial healthcare costs,⁵ our data should already have alerted policy-makers to the need to develop new and support existing programs for high-risk youth in order to work towards preventing HIV and hepatitis C among vulnerable youth in the province of British Columbia. Perhaps the previous data went unnoticed, however, we hope the visual presentation of the very

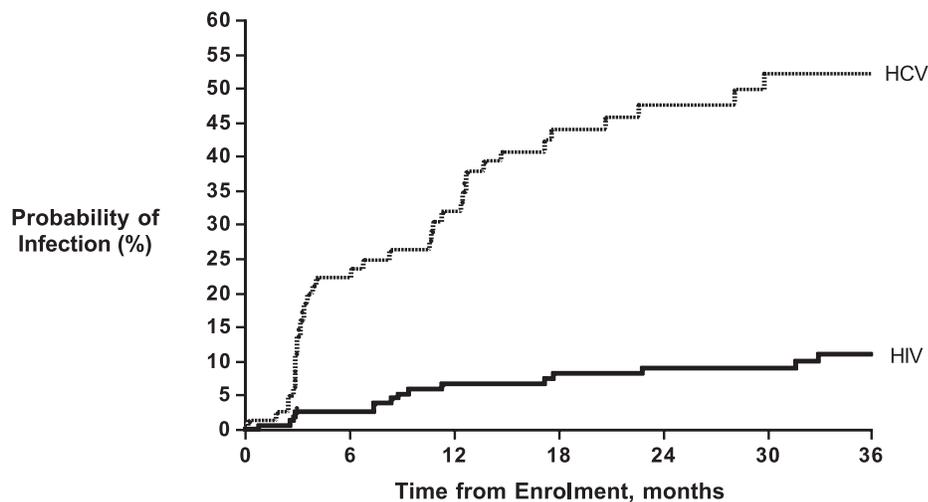


Figure 1. Cumulative HIV and HCV infection rates among IDU ≤ 24 years of age at baseline

high rates of HIV and hepatitis C illustrated in Figure 1 demonstrates the very real potential for the elevated spread of HIV and HCV among vulnerable youth.

REFERENCES

1. Miller CL, Johnston C, Spittal PM, Li K, Laliberte N, Montaner JS, et al. Opportunities for prevention: Hepatitis C prevalence and incidence in a cohort of young injection drug users. *Hepatology* 2002;36(3):737-42.
2. Miller C, Tyndall M, Spittal P, Li K, Laliberte N, Schechter M. HIV incidence and associated risk factors among young injection drug users. *AIDS* 2002;16(3):491-93.
3. Miller CL, Spittal PM, Laliberte N, Li K, Tyndall MW, O'Shaughnessy MV, et al. Females experiencing sexual and drug vulnerabilities are at elevated risk for HIV infection among youth who use injection drugs. *JAIDS* 2002;30(3):335-41.
4. The Coalition of Experiential Women. Final Document from the BC Regional Strategy Meeting on Commercial Sexual Exploitation. Vancouver: April, 2003.
5. Palepu A, Tyndall MW, Leon H, Muller J, O'Shaughnessy MV, Schechter MT, et al. Hospital utilization and costs in a cohort of injection drug users. *CMAJ* 2001;165(4):415-20.
6. Craib KJ, Spittal PM, Wood E, Laliberte N, Hogg RS, Li K, et al. Risk factors for elevated HIV incidence among Aboriginal injection drug users in Vancouver. *CMAJ* 2003;168(1):19-24.
7. Spittal P, Craib K, Wood E, Laliberte N, Li K, Tyndall M, et al. Risk factors for elevated HIV incidence rates among female injection drug users in Vancouver. *CMAJ* 2002;166(7):894-99.
8. Vancouver Police Department. Downtown-Eastside: A Community Profile. Vancouver, 1994.

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RÉSUMÉ

Cet article est un appel à l'action. Nous y présentons les taux d'incidence cumulatifs du VIH et du VHC obtenus selon la méthode Kaplan-Meier chez les participants de moins de 24 ans à l'étude VIDUS (*Vancouver Injection Drug Users Study*), et nous faisons la démonstration de la hausse inquiétante des taux d'incidence pour les deux virus chez ces jeunes toxicomanes. Le taux d'incidence du VIH était de 11,1 %, et celui du VHC était de 52,1 % chez les jeunes participants à l'étude VIDUS 36 mois après leur inscription. La progression de l'épidémie de VIH et de VHC chez les jeunes toxicomanes exige que les responsables de la prise de décisions et de la planification des programmes concentrent des ressources dans la prévention et le traitement des infections véhiculées par le sang chez les jeunes britannico-colombiens vulnérables. Sans une telle concentration de ressources, nous pouvons nous attendre très bientôt à de nouvelles infections à VIH et à VHC et à des hausses ultérieures des coûts des soins de santé.