

City of Ottawa Public Health

Safer Crack Use Initiative

Evaluation Report

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EXECUTIVE SUMMARY

Introduction

Among women and men in Ottawa who inject drugs (IDUs), prevalence rates of the human immunodeficiency virus (HIV) (21%) and the hepatitis C virus (HCV) (76%) are among the highest in Canada. Recent research evidence suggests the potential for HCV and HIV transmission through the multi-person use of crack-smoking implements. On the basis of this scientific evidence, in April 2005, Ottawa's needle exchange program (NEP) commenced the distribution of glass stems, rubber mouthpieces, brass screens, chopsticks, lip balm and chewing gum to reduce the harms associated with smoking crack.

The objective of this study was to evaluate the impact of this initiative on a variety of HCV- and HIV-related risk practices one month, six months and 12 months following implementation.

Methods

Active, street-recruited IDUs who also smoked crack consented to personal interviews and provided saliva samples for HCV and HIV testing at four time points: six-months pre-implementation (N=112), one-month (N=114), six-months (N=157) and twelve-months (N=167) post-implementation. Descriptive and univariate analyses were completed.

Results Highlights

Profile of Participants

- **Demographic Characteristics**

There was very little variation among participants on key demographic variables across the four evaluation phases. The greatest proportion of participants in each evaluation phase: were men (68-82%); reported a mean age of mid-to-late thirties (35–37 years); identified as Canadian (76-86%); had not completed high school (43–57%); were living in Ottawa at the time of their interview (97-100%); had lived in unstable housing in the six months prior to their interview (61-65%); had used the services of a needle exchange program (88-93%); and had used the services of the needle exchange program in Ottawa (87-92%).

- **Drug Use Patterns**

The top five drugs *used* by the greatest proportion of participants in all four stages of the evaluation were crack, cannabis, cocaine, alcohol and prescribed and non-prescribed morphine. The top four drugs *injected* by the greatest proportion of participants in all four stages of the evaluation were cocaine, prescribed and non-prescribed morphine, crack and dilaudid.

- **Public Drug Use**

Injecting in any public place defined as a squat or abandoned building, on the street or in an alley, in a park or in the woods, in a public washroom or toilet or other outdoor area at least once in the six months prior to interview was reported by between one-third and one-half of crack-smoking IDUs across the four evaluation phases (35-51%).

Smoking in any public place was much more frequent than injecting in a public place. Smoking in a squat or abandoned building, on the street or in an alley, in a park or in the woods, in a public washroom or toilet or other outdoor area at least once in the six months prior to interview was reported by over three-quarters (77%) of the participants in the twelve-month post-implementation phase and 39% of these participants reported that their most common place to inject drugs was a public place.

HIV and HCV Infection

- **HIV Testing**

The majority of crack-smokers interviewed in all four phases of the evaluation process had undergone a blood test to test for the presence of HIV (83-90%), in all phases of the evaluation the median for the number of HIV tests undertaken in the two years prior to their interview was two and participants had on average undergone two to three tests with the number of tests undertaken ranging from no tests to twenty tests.

- **HIV Prevalence Rates**

Based on the laboratory test results, the HIV prevalence rate with a 95% confidence interval for the cross sectional sample of crack-smokers participating in interviews at the pre-implementation phase was 8.9% (95% CI: 3.6, 14.2), for those participating in the one-month post-implementation stage 14.2% (95% CI: 7.7, 20.6), 10.4% (95% CI: 5.6, 15.2) among those crack-smokers participating at the six-months

post-implementation phase and 11.0% (95% CI: 6.2, 15.8) among those crack-smokers participating at the twelve-month post-implementation phase.

- **HCV Testing**

The majority of crack-smokers interviewed in all four phases of the evaluation process had undergone a blood test to detect the presence of HCV antibodies (83-90%), the average number of HCV tests undertaken in the two years prior to interview was less than that of the number of HIV tests undertaken; in all phases of the evaluation the median for the number of HCV tests undertaken in the two years prior to interview was one. Participants had on average undergone one to two HCV tests in the two years prior to their interview with the number of tests undertaken ranging from no tests to twenty-four tests.

- **HCV Prevalence Rates**

Based on the laboratory test results, the rate of HCV prevalence with a 95% confidence interval for the cross sectional sample of crack-smokers participating in interviews at the pre-implementation phase was 62.5% (95% CI: 53.5, 71.5), 54.0% (95% CI: 44.8, 63.2) for those crack-smokers participating at the one-month post-implementation phase, 51.3% (95% CI: 43.4, 59.2) for those participating at the six-months post-implementation phase and 56.1% (95% CI: 48.5, 63.7) for those participating at the twelve-months post-implementation phase.

The number of participants for whom positive HIV and HCV laboratory test results were received and who had either not previously accessed testing, had not returned to collect their results or reported that they had tested negative at their most recent test is of concern.

Operation of the Safer Crack Use Initiative

Uptake of the Initiative was immediate, high and sustained. Combining the group of users who directly accessed the initiative with the small proportion of crack-smoking IDUs who reported that their friend, family member or sexual partner accessed the initiative on their behalf, access to the initiative increased significantly over the twelve months of operation with near universal utilization (94%) at the one year post-implementation evaluation point ($p < 0.01$).

Over the period of the evaluation, collection of individual items took precedence over the complete kits which had been the item that the greatest majority had accessed following the first month of operation.

Less than one percent of crack users interviewed at both the six-month and twelve-month evaluation point had been denied safer crack-smoking supplies due to their young age. However, over one third of crack smokers at the six-month evaluation point and over one-quarter at the twelve-month evaluation point had experienced either the unavailability of safer crack-smoking supplies, or had been unable to get as many they needed.

One-quarter of crack users interviewed at both the six-month and twelve-month evaluation points reported that the police had confiscated their clean glass stems. The number of occasions this was experienced ranged from 1 to 25 at the six-month evaluation point and between 1 and 50 times at the twelve-month evaluation point.

During the first month of operation of the Safer Crack Use Initiative, 264 visits were made by people who smoke crack but do not inject, a number that remained fairly consistent on a monthly basis for the following 12 months resulting in a cumulative total of over 4,000 visits made by crack smokers to a program that in addition to distributing safer crack-smoking resources also provided the opportunity for education, prevention, care, support, health services and referrals to other social service and drug treatment services.

Impact of the Safer Crack Use Initiative

- **Mouth Injuries**

There was a marginal decline across the three evaluation phases in the proportion of participants reporting the presence of oral sores, defined as having cuts, cracks, burns or other injuries on the lips or inside the mouth *as a result* of using crack pipes; and/or having *existing* cuts, cracks, burns, open sores, cold sores or other injuries on the lips or inside the mouth while using a crack pipe. However, approximately half of all participants reported the presence of oral sores in the six months prior to their interview (42-52%).

Among participants reporting the presence of oral sores, over three quarters at each evaluation point had lent a pipe to other people to use after they themselves had already used it or were still using it (76-86%) and over two-thirds at each evaluation point had taken a previously-used pipe from someone else to use themselves (68-86%).

Overall, at each evaluation point, at least two-thirds of crack-smoking participants with oral sores engaged in oral sex (65-78%) and among these participants the

greatest proportion reported never using condoms or other barriers during oral sex (46-65%).

- **Drug Use Patterns**

Evidence of change in drug use behavior - transitioning from injecting to smoking - was observed. Following implementation of the initiative, a significant decrease in injecting was observed. Pre-implementation, 96% of IDUs reported injecting in the month prior to the initiative compared with 84% in the one-month, and 78% in the six-months and twelve-months post-implementation ($p < 0.01$). Conversely, a significant increase in prevalence of crack smoking among IDUs was documented. Pre-implementation, 77% reported smoking crack in the six-months prior to interview, 86% one-month, 89% six-months and 93% twelve-months post-implementation ($p < 0.01$).

- **HIV and HCV-related Behaviours and Practices**

In addition to a shift to a less harmful method of drug ingestion, HCV and HIV-related risks associated with this method were reduced. Among crack-smoking IDUs sharing pipes, the proportion sharing “every time” declined from 37% in the six-months pre-implementation, to 31% in the one-month, 12% in the six-months and 13% in the twelve-months post-implementation ($p < 0.01$).

DISCUSSION AND RECOMMENDATIONS

Program Uptake

- **Safer crack use resources**

Uptake of the program was immediate, high and sustained. However, the decline in the collection of crack kits containing additional supplies such as lip balm and safer crack-use promotional material needs to be counteracted with ensuring the distribution of these resources with the individual components of the kit.

- **Rubber mouth pieces**

The low number of rubber mouth pieces collected and distributed in comparison to other materials needs to be investigated further. Significant proportions of crack users at both the six-month (44%) and twelve-month post-implementation evaluation point (48%) declined to collect rubber mouthpieces from the Initiative, with most participants stating that they preferred alternate materials. Given the documented numbers of crack users experiencing mouth injuries due to smoking crack, this behaviour requires further investigation by program staff; increased counselling may be required or an alternative product may need to be offered.

- **Brass screens**

Lower proportions of participants at both the six-month (20%) and twelve-month post-implementation evaluation points (12%) declined to collect brass screens from the Initiative; however the greatest proportion of these participants at both evaluation points stated that they used other materials: 36% and 50% respectively. This is of concern as the alternate material frequently used is brass wool such as Brillo pads or "Chore Boy". However, this metal tends to break apart when heated so that frequently particles are inhaled causing lung damage or are sucked onto the lips or into the mouth causing additional bleeding (The Safer Crack Use Coalition of Toronto, 2003; Porter et al., 1997). The necessity for screens to be made of an efficient and safe material needs to be reviewed by program staff with clients on an individual basis and the findings suggest the need for enhanced promotion and counselling on the topic.

- **Unavailability of supplies**

The situation whereby over one-third of crack smokers at the six-month evaluation point and over one-quarter at the twelve-month evaluation point had experienced either the unavailability of safer crack smoking supplies, or had been

unable to get as many as they needed cannot be repeated. Consistent and reliable ordering of supplies is indicated.

- **Police behaviours**

One-quarter of crack smokers at both the six-month and twelve-month post-implementation evaluation points reported that the Police had confiscated their new clean glass stems. These sustained reports of the confiscation and destruction of clean crack pipes by law enforcement officers require immediate investigation by senior public health staff and discussion with senior law enforcement officials.

- **Increased NEP service access**

Experiencing a myriad of challenges to their physical and mental health, women and men who smoke crack have sporadic and often delayed access to health and social service agencies. However, through the provision of safer crack-smoking resources, the number of contacts made by the NEP with women and men who smoke crack increased substantially. At the end of the thirteen-month evaluation period, the cumulative number of contacts with people who smoke crack but do not inject almost paralleled that of the number of contacts made by people who only inject. Over four thousand contacts were made with a program offering a comprehensive range of resources to enable this group to increase control over their own health. Further research is indicated to document the full range of the harm reduction needs for this marginalised group in order to drive further prevention planning.

Expansion of Harm Reduction Services

- **Unstable housing**

Nearly two thirds of participants at each evaluation point had lived in unstable housing in the six months prior to their interview suggesting the need for the urgent expansion of harm reduction street outreach services to this population.

- **Initiation into smoking crack**

The very young ages at which participants reported that they had first smoked crack suggests the need for promoting education relating to substance use and harm reduction practices among school students and for community agencies serving youth to increase their services by offering the Safer Crack Use Initiative within their agencies.

The data showing that at each post-implementation phase, substantial proportions of injection drug users who also smoke crack had first smoked crack while under the age of 18 could be used by Public Health to advocate for the distribution of safer crack resources to people under the age of 18.

- **Scaling-up access to HIV testing**

The number of participants for whom positive HIV and HCV laboratory test results were received and who had either not previously accessed testing, had not returned to collect their results or reported that they had tested negative at their most recent test is of concern.

The number of people unaware of their positive HIV status suggests the urgent need to scale-up access to HIV testing on a regular basis, both as a means to access early treatment for those found to be infected and as a means for those testing negative to learn of strategies to maintain their negative status.

- **Scaling-up access to HCV testing**

The lower number of HCV tests undertaken in the two years prior to interview indicates the need to promote frequent testing for this virus with high infectivity. As with HIV, the number of people unaware of their positive HCV status and thus unable to access early treatment or to be apprised of strategies to increase control over their health is of concern.

Drug Use Patterns

- **Transitioning to a Less Harmful Method of Drug Administration**

Engagement in smoking crack among the injection drug users in the study increased significantly throughout the period of the evaluation from just over three-quarters of the IDUs interviewed six months prior to implementation to near universal engagement at the twelve-month post-implementation evaluation point. Just over one-quarter of participants at both the six-month and twelve-month evaluation point assessed they were smoking crack more frequently since being able to access safer crack-smoking equipment.

Although this finding may initially appear to be a negative outcome, that providing resources encourages uptake of the behavior, a significant decline in injecting behavior was observed – evidence of transitioning from a higher risk

method of drug use to one with somewhat lower risks.

At the six-month pre-implementation evaluation point, injecting in the month prior to interview was near universal. However, at the twelve-month post implementation evaluation point, a little over three quarters reported they had injected drugs in the month prior to their interview. In addition, close to half of participants at the six-month and twelve-month post-implementation evaluation points reported they were injecting less since being able to access safer crack-smoking equipment.

In Bruneau and colleagues work examining the determinants of sustained injection cessation among over a thousand injection drug users in Montréal, Québec (Bruneau et al., 2004), participants who injected cocaine frequently were less likely to stop injecting whereas smoking crack was associated with a higher frequency of injection cessation. It appears that the interventions to facilitate transition away from cocaine injection to smoking crack, such as the experiences described by participants in this study, may lead to eventual injection cessation with its diminution of health-related harms including HIV and HCV transmission.

- **Public drug use**

In Ottawa, injecting in public has been associated with sharing used needles, injecting with a large number of people, and trading sex with male clients (Navarro & Leonard, 2004). As a result, these behaviours may increase the risk of an injection drug use acquiring HIV and/or HCV.

It is of concern therefore that injecting in any public place defined as a squat or abandoned building, on the street or in an alley, in a park or in the woods, in a public washroom or toilet or other outdoor area at least once in the six months prior to interview was reported by between one-third and one-half of crack-smoking IDUs across the four evaluation phases (35-51%). However, this behaviour does not seem to be increasing over time as there was no significant difference in the proportion of participants reporting injecting in a public place across the four evaluation phases.

Smoking in any public place was much more frequent than injecting in a public place. Smoking in a squat or abandoned building, on the street or in an alley, in a park or in the woods, in a public washroom or toilet or other outdoor area at least once in the six months prior to interview was reported by over three-quarters (77%) of the participants in the twelve-month post-implementation phase and

39% of these participants reported that their most common place to inject drugs was a public place. Public smoking can be harmful to the smoker and is of concern to the community with the potential to discredit the Initiative. Continued counselling on this issue is clearly indicated.

- **Use and disposal of glass stems**

In view of the potential for mouth injuries from smoking crack with a glass stem splintered through continual use, the fact there was a documented increase from 22 to 33 in the average number of times a glass stem was used before disposal is of concern. Although stems are distributed in the quantities requested by clients, the documented irregularities in supply may be the reason for this behaviour further emphasising the need for a consistent source of supplies.

The promotional material distributed through the Safer Crack Use Initiative directs crack smokers to dispose of their used glass stems in a biohazard container, can or jar and return the container to the needle exchange program or one of its partner agencies. Alternatively, used stems can be deposited in one of the needle drop boxes located throughout the City. However, over the period of the evaluation the majority of crack smokers (59-69%) disposed of their used stems in the garbage. Engagement in this practice needs to be urgently modified through the development of enhanced promotional initiatives by program staff.

Health Status

- **HCV prevalence**

The majority of participants at each evaluation point tested positive for HCV (51-63%). This is an unacceptable situation which demonstrates the need for continued and enhanced harm reduction activities.

HCV prevalence rates based on laboratory saliva test results need to be monitored over time to document any trends based on the observed reduction in HCV-related behaviours and practices.

- **HIV prevalence**

Although lower than the prevalence rate for HCV, HIV prevalence is nevertheless also unacceptably high (9-14%) and the variation in rates suggests signs of an unstable outbreak.

- **Mouth injuries**

The potential exists for the transmission and acquisition of HIV and HCV through blood spillage from cuts, cracks, burns, open sores, cold sores or other injuries to the lips or inside of the mouth when pipes are shared. Across the three post-implementation evaluation phases, approximately half of all participants reported the presence of mouth injuries in the six months prior to their interview. These findings are particularly worrisome. Promotion of healthy mouth care, emphasising the importance of the distribution of mouth pieces and lip balm appear to be key programmatic recommendations to reduce disease transmission and acquisition. The distribution of glass stems with the mouthpieces already in place should be investigated as a matter of priority in order to demonstrate good harm reduction practice both to prevent injury to the individual user and to reduce the transmission and acquisition of blood-borne viruses.

HIV- and HCV-related Risk Behaviours and Practices

- **Sharing pipes**

Removing the risk condition of inadequate coverage of safer materials with which to smoke crack appeared to have immediate impact at both the individual and community level. While a modest decline in the multi-person use of crack-smoking equipment was documented, the significant decline in the frequency with which equipment was shared every time - from over one-third at the six-month pre-implementation evaluation point to 13% at the twelve-month post-implementation evaluation point - is evidence of gradual positive behaviour change. Positive behaviour change that clearly needs to be encouraged and supported through the maintenance, with further refinements, of the Safer Crack Use Initiative.

- **Unprotected oral sex**

The potential for transmission of HIV and HCV through blood spillage resulting from cuts, cracks, burns, open sores, cold sores or other injuries to lips or inside of the mouth exists not only when pipes are shared but also during unprotected oral sex. It is of concern therefore to observe the high rate of unprotected oral sex with all statuses of partners among the large number of participants with mouth injuries.

Evidence in the scientific literature points to the lack of emphasis on safer sex counselling among needle exchange staff – the suggestion being safer injection use counselling is privileged over safer sex counselling and education. Clearly program staff need to be urgently apprised of these data in order to implement promotion of both safer smoking practices to reduce the mouth injuries in the first instance and counselling on the importance of protection during oral sex when such injuries are present.