COMMENTARY

Persons in correctional facilities in Canada: A key population for hepatitis C prevention and control

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ABSTRACT

About one in nine Canadians who are infected with hepatitis C spend time in a correctional facility each year. With high rates of current injection drug use and needle sharing, this population may account for a large proportion of new infections. Any national strategy to address hepatitis C should include a focus on persons in correctional facilities, and should build on existing evidence regarding primary, secondary and tertiary prevention.

KEY WORDS: Hepatitis C; incarcerated; prison; Canada

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In light of the large burden of disease and costs associated with hepatitis C infection in Canada,[1,2] there is an urgent need for Canada to develop a comprehensive strategy for hepatitis C control.[3] Such a strategy should include a focus on high-risk populations in which hepatitis C is prevalent, and in which there are opportunities for primary, secondary and tertiary prevention.

In this article, we present evidence from the literature to show that persons who spend time in correctional facilities represent a large proportion of the cases of hepatitis C in Canada, and that time in custody may serve as an opportunity to access prevention initiatives. A focus on this population could contribute to the overall control of hepatitis C in Canada.

Burden of hepatitis C in persons in correctional facilities in Canada

Provincial and territorial facilities house persons who have not yet been sentenced or who have received a sentence of less than two years. There were 251,629 adult admissions to provincial and territorial facilities in the year 2010/2011,[4] representing an estimated 150,977 people (based on the ratio of admissions to unique persons in provincial facilities for adults in Ontario, personal correspondence, Kathy Underhill, Ontario Ministry of Community Safety and Correctional Services, 2014). Persons sentenced to two years or more serve their sentence in federal facilities, and there was an average of 13,758 persons in these facilities on any given day in 2010/2011.[5]

A recent analysis from the Public Health Agency of Canada determined that 24.0% of persons in federal custody and 23.3% of persons in provincial or territorial custody are anti-HCV positive, which means that they have ever been infected with or exposed to hepatitis C.[6] An estimated 26% of cases clear their infection within six months,[6] therefore about 17.2% of those in provincial and territorial custody and 17.8% of those in federal custody have chronic hepatitis C infection. Applying the percentage of persons with chronic hepatitis C infection to the number of persons in provincial or territorial custody and in federal custody each year, approximately 28,425 persons who spend time in Canadian correctional facilities are infected with chronic hepatitis C, as shown in Table 1. This means that between one in eight and one in nine of the estimated 220,697 to 244,836 Canadians with chronic hepatitis C[6] spend time in a correctional facility in Canada each year.

Persons in correctional facilities report high rates of recent injection drug use and needle sharing, both in custody and in the community.[7–11] As these risk behaviours are associated with hepatitis C transmission, persons who spend time in correctional facilities are likely at risk of incident infection if they are not already infected, or of transmitting infection to others if they are already infected; in this way, they are likely responsible for a significant proportion of new cases. This contrasts with other groups that have a high prevalence of hepatitis C, such as those born between 1950 and 1964,[6] who are less likely to be currently involved in behaviours that are associated with hepatitis C transmission.

Strategies to address hepatitis C in persons in correctional facilities

Hepatitis C prevention in persons in correctional facilities could involve providing them with primary, secondary and tertiary prevention measures while they are in custody, or linking them with community-based prevention programs upon their release. Time in custody may be a unique opportunity for public health

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Table 1. Estimated number of persons with chronic hepatitis C infection in the general population and in correctional facilities in Canada each year

Population	Total persons per year	Percent anti-HCV positive[6]	Percent infected with chronic hepatitis C[6]	Persons with chronic hepatitis C infection[6]
General population	34,483,975	–	0.64–0.71	220,697–244,836
Provincial/territorial facilities	150,977	23.3	17.2	25,976
Federal facilities	13,758	24.0	17.8	2449

and health care workers to initiate prevention activities in persons who may otherwise be difficult to reach, for example persons who inject drugs,[12–14] and provides a defined setting for interventions.

For primary prevention, prison needle exchange has been shown to prevent the transmission of bloodborne infections in custody,[15,16] but is not currently available in any correctional facilities in Canada. Bleach is available in some jurisdictions as a means to decontaminate syringes, however, given the lack of high-quality evidence of the effectiveness of bleach programs, they are considered "second-line" to needle and syringe programs.[17] Research from community settings reveals that opioid substitution therapy and drug treatment prevent hepatitis C infection in persons who inject drugs,[18,19] and these treatments could be initiated in custody or upon release.

For secondary prevention, systematic screening for hepatitis C is provided in federal facilities, but not in most provincial and territorial facilities. Innovative strategies such as the use of dried blood spot testing have been shown to be feasible and acceptable in correctional settings in other countries.[20,21]

For tertiary prevention, treatment of hepatitis C could prevent the sequelae of chronic hepatitis C infection and prevent further transmission. Currently, hepatitis C treatment is available in federal facilities, however, in many provincial and territorial facilities, it is only available to those who were already undergoing treatment in the community; individuals cannot initiate treatment. Evidence from persons in federal custody in British Columbia demonstrates that treatment is effective, leading to sustained virological response rates that are comparable to the rates in non-incarcerated populations,[22] and that continuation of treatment after release is feasible,[23] though high re-infection rates suggest that treatment should be coupled with other prevention initiatives.[24]

CONCLUSIONS

We estimate that more than one in nine persons with hepatitis C in Canada spend time in a correctional facility each year. These persons may be responsible for ongoing transmission of infection, based on the high prevalence of injection drug use. Time in custody presents an opportunity for health care and public health services to identify and manage a significant proportion of hepatitis C cases in Canada and to prevent new infections. As recommended by the World Health Organization, public health and prison health systems should collaborate in the development and implementation of evidence-based programs in correctional facilities and link persons to community-based programs upon their release.[25] A focus on persons in correctional facilities is likely to significantly impact the burden of disease of hepatitis C and to improve hepatitis C control in Canada.

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RÉSUMÉ

Environ un Canadien sur neuf infecté par l'hépatite C passe du temps dans un établissement de correction chaque année. Avec ses taux élevés d'utilisation actuelle de drogues par injection et de partage d'aiguilles, cette population pourrait représenter une grande proportion des nouveaux cas d'infection. Toute stratégie nationale de lutte contre l'hépatite C devrait mettre l'accent sur les personnes incarcérées et faire fond sur les données probantes existantes concernant la prévention primaire, secondaire et tertiaire.

MOTS CLÉS : hépatite C; prisonnier; prison; Canada