

ESTIMATING THE NUMBER OF PEOPLE WHO INJECT DRUGS AND THE COVERAGE OF HARM REDUCTION SERVICES IN CANADA, 2011-2016

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BACKGROUND

- Illicit substance use remains a substantial contributor to global morbidity and mortality, resulting in both premature mortality and disability. Injection drug use contributes to the burden of disease by increasing the risk of HIV and viral hepatitis infection through sharing of needles-syringes
- Estimates of the population size of people who inject drugs (PWID) in Canada are limited, being either not current or excluding smaller provinces/territories. Updated estimates are necessary for public health surveillance, service planning and resource allocation, and for monitoring treatment and harm reduction coverage.
- Opioid agonist therapy (OAT) and sterile needle-syringes are reduce the risk of HIV and HCV acquisition among PWID. The World Health Organisation recommends countries provide >200 needle-syringes per PWID per year and opioid substitution therapy to >40 people per 100 PWID¹.
- To better understand injection drug use in Canada and to inform service provision for this population, **this study aimed** to 1) calculate the number of PWID in Canadian provinces in 2011-2016, and 2) estimate the level of OAT and needle-syringe programs coverage.

METHODS

Estimation of PWID population size was calculated using multiplier methods⁴: [methadone treatment number × % methadone recipients reporting injection (benchmark)] ÷ % of PWID receiving methadone

Greatest availability of data across provinces (excl. NU, NWT) was 2011, while data in British Columbia³ and Quebec allowed extrapolation of 2011 provincial PWID estimates annually to 2016 (**Table 1**)

DATA SOURCES

Multiple provincial data sources were combined for PWID population size and OAT / needle-syringe coverage calculations (**Figures 1 & 2**):

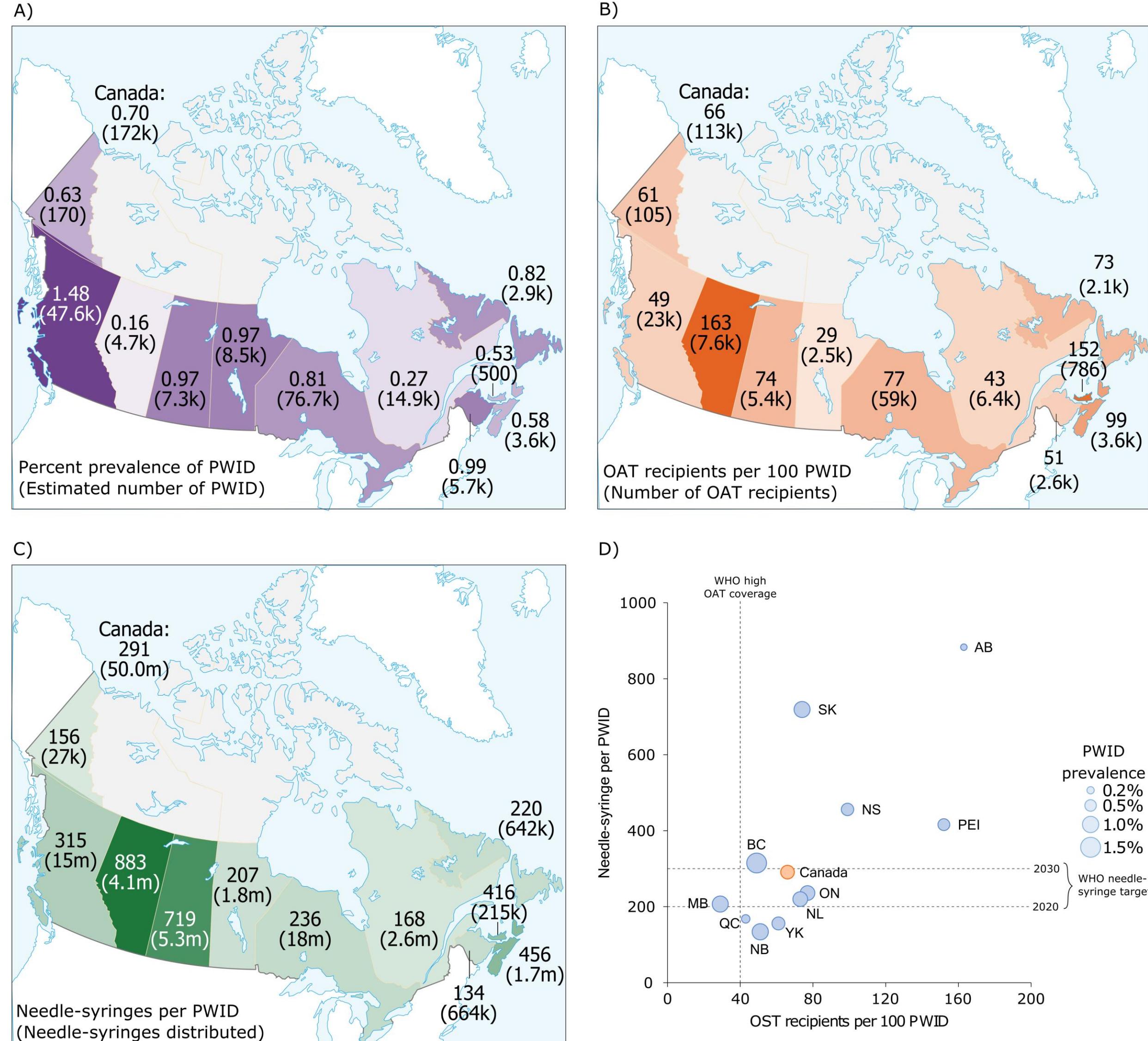
- Provincial methadone/OAT and needle-syringe totals : CIHI, health departments, service providers and prescription monitoring programs.
- Methadone recipients reporting recent injecting : 74.1%².
- Percent PWID receiving methadone : I-TRACK Phase 3 (all; 2011) and SurvUDI network (Quebec, 2011-2016).

RESULTS

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- An estimated 130 000 people injected drugs in Canada in 2011 (excluding NU, NWT), increasing to 171 900 people in 2016. Nationally, the prevalence of recent injection drug use increased from 0.55 to 0.70% (**Table 1**).
- Coverage of opioid substitution therapy (OAT) was high across all provinces, with all but Manitoba achieving WHO guidelines of >40 recipients per 100 PWID by 2016. The greatest increases were in Alberta and Prince Edward Island, nearly tripling overall (**Figure 2a**).
- Few of Canada's provinces (AB, SK, PEI, NS) provided greater than the WHO 2020 target (200 needle-syringes per PWID) in 2011 (**Figure 2b**). By 2016, only Quebec, Newfoundland & Labrador, and New Brunswick were below the WHO 2020 targets.
- Overall harm reduction coverage improved over time for all provinces and largely exceeded WHO guidelines for both indicators in 2016 (**Figure 1**).

Figure 1:
Estimation of the prevalence of injection drug use (A), coverage of opioid agonist treatment (OAT) per 100 PWID (B), coverage of needle-syringes distributed per PWID (C), and combination (D) for people who inject drugs in Canada in 2016.



DISCUSSION

- The current estimate of PWID in 2011 closely resembles Public Health Agency Canada estimate (130 000 vs 112 900 PWID). This study builds on current knowledge of PWID in Canada, allowing for provincial comparison of PWID population size and treatment coverage on an annual basis.
- The current estimates of both population size and harm reduction coverage reflect countries of similar size and income, such as Western Europe and Australia⁵.
- While unique in its coverage of most Canadian provinces, the study may have been limited by biased recruitment in I-TRACK (against methamphetamine), provincial trends not matching Quebec or British Columbia, and extrapolation of incomplete data for some provinces.

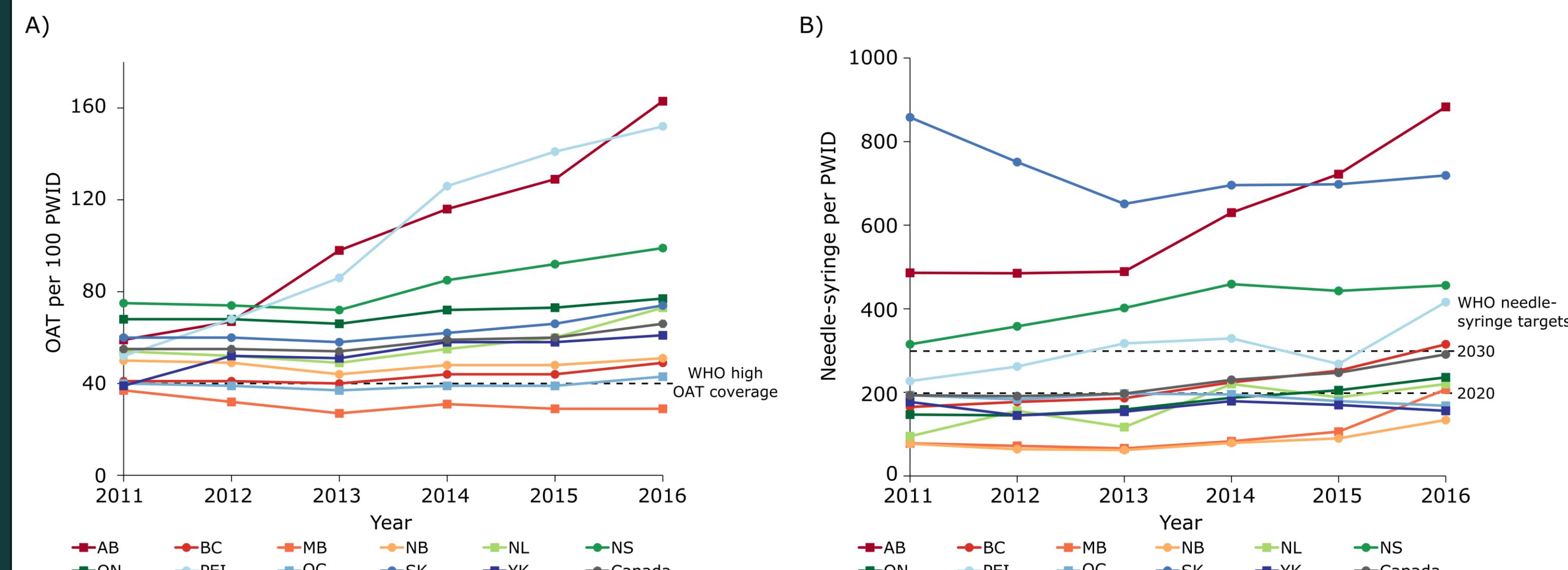
Table 1: Calculation of the number of people who inject drugs in Canada in 2011 and 2016 using indirect multiplier method.

	2011 Benchmark	2011 PWID w methadone	2011 PWID estimate	2011 Population %	2016 PWID estimate	2016 Population %
Canada			130 000	0.55	171 900	0.70
Alberta	986	0.28	3 500	0.13	4 700	0.16
British Columbia	9 400	0.26	36 000	1.15	47 600	1.48
Manitoba	2 100	0.32*	6 400	0.77	8 500	0.97
New Brunswick	1 200	0.32*	3 800	0.72	5 000	0.99
Newfoundland & Labrador	700	0.32*	2 200	0.60	2 900	0.82
Nova Scotia	1 300	0.47	2 800	0.42	3 600	0.58
Ontario	22 700	0.39	58 000	0.63	76 700	0.81
Prince Edward Island	130	0.32*	400	0.40	500	0.53
Quebec	2 800	0.25	11 300	0.20	14 900	0.27
Saskatchewan	2 100	0.38	5 500	0.78	7 300	0.97
Yukon	30	0.22	100	0.50	170	0.63

*Not within I-TRACK network, national average applied

Figure 2:

Trends in harm reduction coverage for PWID in Canada, 2011-2016. Number of OAT recipients per 100 PWID (A), and number of needle-syringes per PWID (B).



CONCLUSION

- We present a relatively simple method for estimating the number of people who inject drugs in Canada in a period of increased morbidity and mortality associated with opioid use disorder. The heterogeneity harm reduction coverage underscores the differences in models of service provision, and highlights areas of potential improvement.
- Improved data collection at provincial levels will increase accuracy of estimates, while implementing this modest data collection (health-service indicators and PWID surveys) in international settings would enable harmonization of simple monitoring methods worldwide.
- Greater investment in HIV and HCV prevention and treatment is urgently needed. This study provides a basis for these developments.
- Enhanced understanding of injection drug use and harm reduction coverage should be used to inform public health surveillance, service planning and resource allocation, and treatment and harm reduction monitoring.

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