

Addressing the Syndemic of HIV, Hepatitis C, Overdose, and COVID-19 Among People Who Use Drugs: The Potential Roles for Decriminalization and Safe Supply

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ABSTRACT: People who use drugs (PWUD) face concurrent public health emergencies from overdoses, HIV, hepatitis C, and COVID-19, leading to an unprecedented syndemic. Responses to PWUD that go beyond treatment—such as decriminalization and providing a safe supply of pharmaceutical-grade drugs—could reduce impacts of this syndemic. Solutions already implemented for COVID-19, such as emergency

safe-supply prescribing and providing housing to people experiencing homelessness, must be sustained once COVID-19 is contained. This pandemic is not only a public health crisis but also a chance to develop and maintain equitable and sustainable solutions to the harms associated with the criminalization of drug use. (*J. Stud. Alcohol Drugs*, 81, 556–560, 2020)

The syndemic argument

The criminalization of personal drug use marginalizes people who use drugs (PWUD), affecting their life, liberty, and security. Prohibition forces PWUD to engage in illegal activities to procure and consume drugs. This creates an international underground economy that generates billions of dollars despite escalating enforcement efforts (United Nations Office on Drugs and Crime, 2020b). This foments an environment in which drugs have inflated prices and unpredictable content, are potentially toxic, and are often consumed in unsafe ways. Along with deaths caused by the unintentional consumption of toxic drugs, there are also severe social punishments for drug use, such as being unemployed due to a low-level drug possession charge and/or being denied housing because of a criminal record, resulting in persistent homelessness. These conditions greatly increase the risk of overdose and overdose deaths, as well as injection-related infections—including HIV and hepatitis C virus (HCV)—while pushing PWUD away from the traditional health care system (Csete et al., 2016).

The coronavirus disease-2019 (COVID-19) pandemic, and the associated public health response of social distancing, physical isolation, and international border restrictions, creates greater harms for PWUD who rely on an illicit drug supply (United Nations Human Rights Office of the High Commissioner, 2020). Without a regular supply of drugs,

PWUD are less able to physically isolate and will need to travel to obtain funds or purchase drugs. Physical isolation leads to using drugs alone, which increases the risk of overdose death. Many harm reduction and addiction treatment services have had to scale back based on social distancing guidelines (Bartholomew et al., 2020; Dunlop et al., 2020). International border restrictions related to COVID-19 have made the illicit drug supply even more unpredictable and deadly (Canadian Centre for Substance Use & Addiction & Canadian Community Epidemiology Network, 2020; United Nations Office on Drugs and Crime, 2020a).

As a consequence, PWUD face concurrent public health emergencies (United Nations Office on Drugs and Crime, 2019): increasing overdoses, HIV, HCV, and COVID-19. The confluence of these factors is leading to an unprecedented syndemic. A syndemic occurs when multiple health and social issues intersect and interact to worsen or accelerate disease progression and social outcomes (Singer et al., 2017; Tsai et al., 2017). Health issues such as HIV and HCV overlap with each other because they share similar routes of transmission and risk factors, and multiple social issues frequently co-occur with these infections, such as poverty, homelessness, and injection drug use (Butt et al., 2017; Cleland et al., 2017; Morano et al., 2013). For example, among people living with HCV infection, HIV co-infection accelerates liver disease progression. Poverty and homelessness are frequently found to reduce the likelihood of HIV antiretroviral medication adherence, so when HIV/HCV co-infection, poverty, and homelessness co-occur, they result in accelerated disease progression and poorer health outcomes (Klein et al., 2013).

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Although existing services need to be scaled up—including needle and syringe distribution services, safe consumption sites/overdose prevention sites, take-home naloxone, drug checking, and addiction treatment (including opioid agonist therapy [OAT]) for those who want it—further innovative responses are needed to prevent overdose deaths while facilitating prevention and treatment of infectious diseases and other adverse health outcomes during the COVID-19 pandemic (Chang et al., 2020). Successful approaches would address health disparities for PWUD, reduce drug use–related harms, and enable implementation of COVID-19 public health recommendations, such as physical distancing (Health Canada, 2020a).

In addition to scaling up existing services, we believe that helpful responses would involve decriminalizing personal drug use and providing a safe supply of pharmaceutical-grade drugs to PWUD, such as hydromorphone, methylphenidate, diazepam, and diacetylmorphine.

Decriminalization

Decriminalization of personal drug use and access to legal medications would decrease the risk of incarceration for PWUD. Correctional facilities concentrate infectious diseases and fuel drug use harm because of a lack of harm reduction services, overcrowding, and insufficient access to medical care. Evidence has shown that correctional facilities catalyze COVID-19 outbreaks, fueling the growing syndemic (Hawks et al., 2020; Saloner et al., 2020). Such enclosed indoor environments with overcrowding, little opportunity for physical distancing, and staff that often move between facilities are the type of situations in which COVID-19 spreads. As COVID-19 moves across North America and police continue to arrest and incarcerate people, putting them into already overcrowded facilities, it has become increasingly more difficult to safely isolate new entrants who potentially have COVID-19 infection from people who are already detained, thus creating a situation in which it is impossible to contain infections. If society continues to criminalize PWUD, correctional facilities will continue to have some of the largest COVID-19 outbreaks during this pandemic (Williams et al., 2020).

Decriminalization of personal drug use is increasingly recognized as an urgently needed response to COVID-19 and its disproportionate impact on PWUD. The United Nations Expert on the Right to Health recently recommended that to “prevent unnecessary intake of prisoners and unsafe drug consumption practices, moratoria should be considered on enforcement of laws criminalizing drug use and possession” (United Nations Human Rights Office of the High Commissioner, 2020). The Canadian HIV/AIDS Legal Network mapped out a possible legal response, calling on the Canadian federal government to provide exemptions to the Canadian *Controlled Drugs and Substances Act* in the

public interest (Canadian HIV/AIDS Legal Network, 2020). Decriminalization is always possible if there is political will. The Canadian Association of Chiefs of Police has even called for decriminalization since the pandemic has begun (Canadian Association of Chiefs of Police, 2020).

Detractors of decriminalization will argue that decriminalizing personal drug use will lead to increased drug use and that this consequently will translate to an increased burden on the health care system, using the examples of tobacco and alcohol. We would argue that, currently, the unsafe environment that is created by the criminalization of drug use is associated with a higher rate of medical complications than would occur if decriminalization was implemented (Greenwald, 2009). Moreover, if done correctly, implementing decriminalization could also reduce stigma associated with drug use, allowing people to access health care services sooner, thus increasing the number of individuals who may voluntarily access prevention, harm reduction, and treatment services (Csete & Wolfe, 2017).

Safe supply

Providing a safe supply of drugs is another urgently needed response (Tyndall, 2018; Tyndall, 2020). *Safe supply* is defined as a legal and regulated supply of mind- or body-altering substances that traditionally only have been accessible through illicit markets. Safe supply is explicitly not a form of treatment aimed at abstinence from substances, and it is not traditional OAT (i.e., methadone, buprenorphine, or slow-release oral morphine) (Canadian Association of People Who Use Drugs, 2019). Although supervised injectable OAT (including heroin and hydromorphone maintenance therapy) enables an additional group of PWUD to reduce their interaction with toxic illicit drug markets, safe supply differs because it is conceptualized as unsupervised (Ivsins et al., 2020). Safe supply could include not only pharmaceutical-grade opioids but also other substances, including stimulants (Fleming et al., 2020).

Because the vast majority of overdose deaths in North America now involve toxic doses of illicit fentanyl and fentanyl analogues (Katz et al., 2020), access to pharmaceutical-grade drugs would ensure that they are appropriately dosed and not adulterated, allowing PWUD to reduce their risk of unintentional overdose from a toxic illicit drug supply (Fischer et al., 2020; Ivsins et al., 2020). Within the COVID-19 pandemic, sufficient safe supply for individual use could facilitate physical isolation by preventing a need to seek funds to purchase unknown substances from unregulated drug markets (Bach et al., 2020). PWUD who are not currently engaged in traditional primary care or in OAT programs could establish new relationships with safe-supply programs, facilitating HIV and HCV prevention, testing, and treatment, while promoting autonomy. In addition, sufficient safe supply could also reduce the likelihood of sharing drugs

or drug-using equipment, including re-using filters and washes, potentially reducing risks of HIV and HCV transmission (Roy et al., 2011).

Where drugs remain criminalized, the most direct route to safe supply is through medical prescribing. Although regulatory barriers to prescribing safe supply exist, medications can be prescribed off label in many jurisdictions, and regulations can be changed. For example, Health Canada has provided a class exemption (Health Canada, 2020b) to the Canadian *Controlled Drugs and Substances Act* to temporarily reduce some regulations around controlled substances during the COVID-19 pandemic. Guidelines for safe supply have been developed during concurrent public health emergencies in Canada (British Columbia Centre for Substance Use, 2020; Canadian Research Initiative in Substance Misuse, 2020) and need to be scaled up and implemented quickly, because several jurisdictions in Canada (e.g., British Columbia) have seen a record number of overdose deaths since the start of the pandemic (British Columbia's Coroners Report, 2020). Safe supply is not a panacea, because a prescriber-based model and prescribing alone also do not reduce crucial social components such as the need for housing; however, it is a necessary step toward health equity for PWUD and to diminish the impacts of the ongoing syndemic.

Furthermore, there are provider-level barriers to implementing safe supply as it could currently be implemented. Prescribing pharmaceutical-grade opioids with psychotropic and pleasurable effects runs against most physician prescribing practices and traditional guidelines, particularly to people with opioid use disorder. With the massive upswing in overdose deaths, some associated with prescription opioids, there has been further reluctance to prescribe off-label opioids. In the United States, there has been a steady decrease in opioid prescribing rates that are not OAT medications since 2012 (Centers for Disease Control and Prevention, 2020). In this case, safe supply would not be provided to people who are opioid naïve but rather to PWUD who already use opioids and are dependent on them. Safe supply could be provided in addition to OAT, for PWUD who use illicit opioids but still want to be maintained on OAT (Frank, 2020). Recommendations from professional societies and regulatory colleges could help improve the chance that these providers will prescribe safe supply (Bach et al., 2020).

Other interventions to address provider-level barriers include innovative tech projects such as MySafe (Bonn, 2020; Tyndall, 2020). MySafe is a noncontact verified identity dispenser that can dispense medications to participants. Along with criminalization, PWUD experience stigma structurally, socially, and eventually internally, and this is a main reason why people use alone (Drug Policy Alliance, 2014; Paquette et al., 2018). Reducing stigma regarding drug use will save lives. Innovative measures that provide a degree of anonymous service delivery can reduce the likelihood that

participants experience stigma or discrimination, which is often reported when individuals need to access OAT programs (Marchand et al., 2019). The MySafe intervention provides further opportunity to provide PWUD with other medications (e.g., HCV or HIV treatment). This could increase engagement because a major aversion to obtaining medication is interaction with the provider and limitations in hours of operation. It would also reduce risk for transmission of COVID-19 and other respiratory infections by reducing physical contact between patients and providers because MySafe is virtually contactless, with medication being received through a confirmatory biometric scan of the palm.

Conclusions

These responses—including decriminalization and safe supply, if led by PWUD, their allies, health authorities, and governments—may reduce not only risks of COVID-19 but also the ongoing global overdose crisis and other aspects of this syndemic wherein several jurisdictions overdose deaths have greatly outnumbered deaths attributable to COVID-19 (Globe & Mail Editorial Board, 2020). PWUD are people first, and we as a society must treat them with the same respect, dignity, and compassion we would give to any other person vulnerable to COVID-19. Everyone deserves the right to adequate health care; this includes people who have been structurally oppressed, forced to live in poverty, excluded from traditional health care, or systematically discriminated and over-incarcerated.

The COVID-19 pandemic has shone a light on many disparities that not only affect the health of marginalized people but also place the health of the entire population at risk. Many of these disparities are finally being addressed with pragmatism and compassion, such as moves to rapidly house people experiencing homelessness to facilitate their ability to self-isolate (Canadian Alliance to End Homelessness, 2020). However, we must ensure that this pragmatism and compassion extend to all members of our communities, including PWUD. This pandemic is not only a public health crisis but also an opportunity to begin addressing the harms caused by the criminalization of drug use by decriminalizing personal drug use and providing a sustainable safe supply of drugs.

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References

- Bach, P., Robinson, S., Sutherland, C., & Brar, R. (2020). Innovative strategies to support physical distancing among individuals with active addiction. *The Lancet Psychiatry*, 7, 731–733. doi:10.1016/S2215-0366(20)30231-5
- Bartholomew, T. S., Nakamura, N., Metsch, L. R., & Tookes, H. E. (2020). Syringe services program (SSP) operational changes during the COVID-19 global outbreak. *International Journal on Drug Policy*, 102821. Advance online publication. doi:10.1016/j.drugpo.2020.102821
- Bonn, M. (2020, May 5). Canada's safe supply vending machine project is even more important now. *Filter*. Retrieved from <https://filtermag.org/safe-supply-vending-machines>
- British Columbia Centre for Substance Use. (2020). *Risk mitigation: In the context of dual public health emergencies*. Retrieved from <https://www.bccsu.ca/wp-content/uploads/2020/04/Risk-Mitigation-in-the-Context-of-Dual-Public-Health-Emergencies-v1.5.pdf>
- British Columbia's Coroners Report. (2020). *Illicit drug toxicity deaths in BC, January 1, 2010–July 31, 2020*. Retrieved from <https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/statistical/illicit-drug.pdf>
- Butt, Z. A., Shrestha, N., Wong, S., Kuo, M., Gesink, D., Gilbert, M., . . . Janjua, N. Z. (2017). A syndemic approach to assess the effect of substance use and social disparities on the evolution of HIV/HCV infections in British Columbia. *PloS One*, 12(8), e0183609. doi:10.1371/journal.pone.0183609
- Canadian Alliance to End Homelessness. (2020, May 4). *Getting back to housing*. Retrieved from <https://caeh.ca/wp-content/uploads/CAEH-Getting-Back-to-Housing.pdf>
- Canadian Association of Chiefs of Police. (2020). *Findings and recommendations report: Decriminalization for simple possession of illicit drugs: Exploring impacts of public safety and policing*. Retrieved from https://www.cacp.ca/index.html?asst_id=2189
- Canadian Association of People Who Use Drugs. (2019). *Safe supply concept document*. Retrieved from <http://www.capud.ca/sites/default/files/2019-03/CAPUD%20safe%20supply%20English%20March%203%202019.pdf>
- Canadian Centre for Substance Use & Addiction & Canadian Community Epidemiology Network. (2020, May). *CCENDU Alert: Changes related to COVID-19 in the illegal drug supply and access to services, and resulting health harms*. Retrieved from <https://www.ccsa.ca/sites/default/files/2020-05/CCSA-COVID-19-CCENDU-Illegal-Drug-Supply-Alert-2020-en.pdf>
- Canadian HIV/AIDS Legal Network. (2020, May 14). *Civil society organizations call for drug decriminalization as a necessary response to COVID-19* [Media release]. Retrieved from <http://www.aidslaw.ca/site/media-release-civil-society-organizations-call-for-drug-decriminalization-as-a-necessary-response-to-covid-19/?lang=en>
- Canadian Research Initiative in Substance Misuse. (2020). *Supporting people who use substances in shelter settings during the COVID-19 pandemic: National rapid guidance*. Retrieved from <https://crism.ca/wp-content/uploads/2020/06/CRISM-Guidance-Supporting-People-Who-Use-Substances-in-Emergency-Shelter-Settings-V1.pdf>
- Centers for Disease Control and Prevention. (2020). *U.S. opioid prescribing rate maps*. Retrieved from <https://www.cdc.gov/drugoverdose/maps/rxrate-maps.html>
- Chang, J., Agliata, J., & Guarinieri, M. (2020). COVID-19—Enacting a 'new normal' for people who use drugs. *International Journal on Drug Policy*, 102832. Advance online publication. doi:10.1016/j.drugpo.2020.102832
- Cleland, C. M., Lanza, S. T., Vasilenko, S. A., & Gwadz, M. (2017). Syndemic risk classes and substance use problems among adults in high-risk urban areas: A latent class analysis. *Frontiers in Public Health*, 5, 237. doi:10.3389/fpubh.2017.00237
- Csete, J., Kamarulzaman, A., Kazatchkine, M., Altice, F., Balicki, M., Buxton, J., . . . Beyrer, C. (2016). Public health and international drug policy. *The Lancet*, 387, 1427–1480. doi:10.1016/S0140-6736(16)00619-X
- Csete, J., & Wolfe, D. (2017). Seeing through the public health smoke-screen in drug policy. *International Journal on Drug Policy*, 43, 91–95. doi:10.1016/j.drugpo.2017.02.016
- Dunlop, A., Lokuge, B., Masters, D., Sequeira, M., Saul, P., Dunlop, G., . . . Maher, L. (2020). Challenges in maintaining treatment services for people who use drugs during the COVID-19 pandemic. *Harm Reduction Journal*, 17, Article no. 26. doi:10.1186/s12954-020-00370-7
- Drug Policy Alliance. (2014). *Stigma and people who use drugs*. Retrieved from https://www.drugpolicy.org/sites/default/files/DPA_Fact_Sheet_Stigma_and_People_Who_Use_Drugs.pdf
- Fischer, B., Lee, A., & Vojtila, L. (2020). 'Safer opioid distribution' as an essential public health intervention for the opioid mortality crisis—Considerations, options and examples towards broad-based implementation. *Public Health in Practice*, 1, 100016. doi:10.1016/j.puhip.2020.100016
- Fleming, T., Barker, A., Ivsins, A., Vakharia, S., & McNeil, R. (2020). Stimulant safe supply: A potential opportunity to respond to the overdose epidemic. *Harm Reduction Journal*, 17, 1–6. Retrieved from <https://harmreductionjournal.biomedcentral.com/articles/10.1186/s12954-019-0351-1>
- Frank, D. (2020). Methadone maintenance treatment is swapping one drug for another, and that's why it works: Towards a treatment-based critique of the war on drugs. *International Journal of Drug Policy*, 83, 102844. doi:10.1016/j.drugpo.2020.102844
- Globe & Mail Editorial Board. (2020, July 26). Alberta and B.C. grapple an overdose epidemic deadlier than COVID-19 [Editorial]. *The Globe and Mail*. Retrieved from <https://www.theglobeandmail.com/opinion/editorials/article-alberta-and-bc-grapple-an-overdose-epidemic-deadlier-than-covid-19>
- Greenwald, G. (2009, April 2). *Drug decriminalization in Portugal: Lessons for creating fair and successful drug policies*. Cato Institute Whitepaper Series. Retrieved from <http://dx.doi.org/10.2139/ssrn.1464837>
- Hawks, L., Woolhandler, S., & McCormick, D. (2020). COVID-19 in prisons and jails in the United States [Viewpoint]. *JAMA Internal Medicine*, 180, 1041–1042. doi:10.1001/jamainternmed.2020.1856
- Health Canada. (2020a). *Coronavirus disease (COVID-19): Prevention and risks*. Retrieved from <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks.html>
- Health Canada. (2020b). *Subsection 56(1) class exemption for patients, practitioners and pharmacists prescribing and providing controlled substances in Canada during the coronavirus pandemic*. Retrieved from <https://www.canada.ca/en/health-canada/services/health-concerns/controlled-substances-precursor-chemicals/policy-regulations/policy-documents/section-56-1-class-exemption-patients-pharmacists-practitioners-controlled-substances-covid-19-pandemic.html>
- Ivsins, A., Boyd, J., Beletsky, L., & McNeil, R. (2020). Tackling the overdose crisis: The role of safe supply. *International Journal of Drug Policy*, 80, 102769. doi:10.1016/j.drugpo.2020.102769

- Katz, J., Goodnough, A., & Sanger-Katz, M. (2020, July 15). In shadow of pandemic, U.S. drug overdose deaths resurge to record. *The New York Times*. Retrieved from <https://www.nytimes.com/interactive/2020/07/15/upshot/drug-overdose-deaths.html#:~:text=In%20Shadow%20of%20Pandemic%2C%20U.S.%20Drug%20Overdose%20Deaths%20Resurge%20to%20Record,-By%20Josh%20Katz&text=Drug%20deaths%20in%20America%2C%20which,worsened%20by%20the%20coronavirus%20pandemic>.
- Klein, M.B., Rollet, K.C., Saeed, S., Cox, J., Potter, M., Cohen, J., . . . Walmsley, S. (2013). HIV and hepatitis C virus coinfection in Canada: Challenges and opportunities for reducing preventable morbidity and mortality. *HIV Medicine*, 14, 10–20. doi:10.1111/j.1468-1293.2012.01028.x
- Marchand, K., Beaumont, S., Westfall, J., MacDonald, S., Harrison, S., Marsh, D. C., . . . Oviedo-Joekes, E. (2019). Conceptualizing patient-centered care for substance use disorder treatment: Findings from a systematic scoping review. *Substance Abuse Treatment, Prevention, and Policy*, 14, Article no. 37. doi:10.1186/s13011-019-0227-0
- Morano, J. P., Gibson, B. A., & Altice, F. L. (2013). The burgeoning HIV/HCV syndrome in the urban Northeast: HCV, HIV, and HIV/HCV coinfection in an urban setting. *PLoS One*, 8, e64321. doi:10.1371/journal.pone.0064321
- Paquette, C. E., Syvertsen, J. L., & Pollini, R. A. (2018). Stigma at every turn: Health services experiences among people who inject drugs. *International Journal of Drug Policy*, 57, 104–110. doi:10.1016/j.drugpo.2018.04.004
- Roy, É., Arruda, N., & Bourgois, P. (2011). The growing popularity of prescription opioid injection in downtown Montréal: New challenges for harm reduction. *Substance Use & Misuse* 46, 1142–1150. doi:10.3109/10826084.2011.552932
- Saloner, B., Parish, K., Ward, J. A., DiLaura, G., & Dolovich, S. (2020). COVID-19 cases and deaths in federal and state prisons. *JAMA*, 324, 602–603. doi:10.1001/jama.2020.12528
- Singer, M., Bulled, N., Ostrach, B., & Mendenhall, E. (2017). Syndemics and the biosocial conception of health. *The Lancet*, 389, 941–950. doi:10.1016/S0140-6736(17)30003-X
- Tsai, A. C., Mendenhall, E., Trostle, J. A., & Kawachi, I. (2017). Co-occurring epidemics, syndemics, and population health. *The Lancet*, 389, 978–982. doi:10.1016/S0140-6736(17)30403-8
- Tyndall, M. (2018). An emergency response to the opioid overdose crisis in Canada: A regulated opioid distribution program. *CMAJ*, 90, E35–E36. doi:10.1503%2Fcmaj.171060
- Tyndall, M. (2020). Safer opioid distribution in response to the COVID-19 pandemic. *International Journal of Drug Policy*. Advance online publication. doi:10.1016/j.drugpo.2020.102880
- United Nations Human Rights Office of the High Commissioner. (2020). *Statement by the UN expert on the right to health* on the protection of people who use drugs during the COVID-19 pandemic*. Retrieved from <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25797&LangID=E>
- United Nations Office on Drugs and Crime. (2019). *Global overview of drug demand and supply: World Drug Report (United Nations publication, Sales No. E.19.XI.8)*. Retrieved from https://reliefweb.int/sites/reliefweb.int/files/resources/WDR19_Booklet_2_DRUG_DEMAND.pdf
- United Nations Office on Drugs and Crime. (2020a). *Research brief: COVID-19 and the drug supply chain: From production and trafficking to use*. Retrieved from <https://www.unodc.org/documents/data-and-analysis/covid/Covid-19-and-drug-supply-chain-Mai2020.pdf>
- United Nations Office on Drugs and Crime. (2020b). *World Drug Report 2020: Executive summary, impact of COVID-19, policy implications*. United Nations publication, Sales No. E.20.XI.6. Retrieved from https://wdr.unodc.org/wdr2020/field/WDR20_BOOKLET_1.pdf
- Williams, T., Seline, L., & Griesbach, R. (2020, June 16). Coronavirus cases rise sharply in prisons even as they plateau nationwide. *The New York Times*. Retrieved from <https://www.nytimes.com/2020/06/16/us/coronavirus-inmates-prisons-jails.html>