A low-barrier, flexible safe supply program to prevent deaths from overdose

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For a first-person account of this program, see www.cmaj.ca/lookup/doi/10.1503/cmaj.220649

Between January 2016 and June 2021, 24 626 people died from opioid toxicity in Canada.[1] A key driver of this ongoing public health crisis has been the infiltration of illicitly manufactured fentanyl and other dangerous adulterants into the unregulated drug supply. Although a range of educational, harm reduction and substance use disorder (SUD) treatment interventions have been implemented and expanded in response, these efforts have not been sufficient, and the number of deaths from drug poisoning continues to rise. Furthermore, a substantial proportion of people do not access conventional treatments; for instance, only a minority of patients with opioid use disorder regularly receive treatment medications.[2] Emerging evidence also suggests that the changing drug supply has negatively affected the effectiveness of these medications, including the efficacy of buprenorphine among people using fentanyl compared with those using heroin.[3] An additional concern is unintentional exposure to fentanyl among people who use substances such as stimulants and the emergence of other contaminants such as benzodiazepines.

This reality has prompted calls for the provision of a legal and regulated source of psychoactive substances, known as "safe supply," particularly low-barrier, flexible options that meet the diverse needs and goals of people who use drugs.[4]

Key points

- People who use drugs have an increased risk of death owing to the toxic, unregulated drug supply.
- Providing a safe supply of substances, including opioids such as hydromorphone and fentanyl, and psychostimulants, may reduce the risk of overdose death, decrease other harms of substance use and support patient engagement in care.
- Safer Alternatives for Emergency Response (SAFER) is a low-barrier, flexible safe supply program that provides several medication options, including fentanyl, and is integrated with other health care and social services.
- Harm reduction, primary care and treatment for substance use disorders can effectively coexist.

What is the Safer Alternatives for Emergency Response program?

Operating in Vancouver since April 2021, Safer Alternatives for Emergency Response (SAFER) is a safe supply program that provides substitutes to the toxic drug supply in the form of medications that are prescribed off label. The program is operated by a nonprofit organization (PHS Community Services Society) in partnership with Vancouver Coastal Health, and is funded through Health Canada's Substance Use and Addiction Program. A multidisciplinary team of physicians, nurses, pharmacists, social workers and people with lived or living experience of substance use oversees the program. The approach adopted at SAFER can be viewed as an extension of the use of medications as treatment for SUDs, such as opioid agonist therapy (OAT). However, in contrast to OAT, which is often prescribed with a goal of abstinence, the primary goal of SAFER is to prevent overdose and other harms by decreasing reliance on the unpredictable, unregulated drug market. Medications provided at SAFER include those with mind- and body-altering effects that are often desired by people who use drugs but are typically accessible only via unregulated drugs and are not provided by conventional treatments such as OAT.[5]

Who is eligible?

Eligibility for SAFER is based on ongoing use of substances and vulnerability to their associated harms. At intake, participants are assessed to determine appropriate medication options and potential need for precautions owing to medical conditions that affect tolerability of SAFER medications, factors that confer additional vulnerability (such as pregnancy or young age) and concurrent use of substances such as alcohol that require additional counselling. Although there are no absolute contraindications to participation, the program emphasizes identifying the appropriateness of the intervention, recognizing participant autonomy and facilitating connection to evidence-based treatment for SUDs when this is aligned with participant-defined goals.

How is it delivered?

Enrolled participants can access medications, including opioids such as hydromorphone and fentanyl, that substitute the unregulated substances they are currently consuming. Various formulations are available, including injectable, sublingual, oral and transdermal formulations. A notable and novel feature of the SAFER program is that it offers fentanyl, providing a direct substitute to the primary opioid in the local unregulated drug supply, but of known potency and without dangerous adulterants. Participants can choose between a titration schedule that starts with lower doses to ensure tolerance before increasing to a higher range, or a fixed dose that is taken as needed. Given the increasing rate of overdose deaths involving stimulants in Canada, and the limited treatment options for stimulant use disorder, prescribed psychostimulants are also available, including methylphenidate and dextroamphetamine.

For each medication, a unique dosage protocol is largely overseen by nursing staff, unlike OAT, which typically requires physician assessment before dosage changes. Initial doses start at a standardized level to ensure tolerance, but are then adjusted to achieve a desired effect, thereby promoting participant autonomy in decision-making around substance use. Other program features intended to improve engagement include allowing on-site use of unregulated substances, meaning that the program also functions as a supervised consumption service, and providing a demedicalized physical space staffed by peer support workers. Unlike OAT, which is typically administered once daily and is cancelled after a few consecutive missed doses, SAFER does not have a predetermined schedule for accessing medications, which allows participants to return multiple times per day or to be absent for periods of time. In contrast with most other existing safe supply options, SAFER participants are not required to remain on OAT concurrently. By decoupling these interventions, the focus of SAFER is on harm reduction, promotion of participant autonomy and improvement of participant–provider relationships.

The SAFER program is integrated with health care and social services, and participants have access to on-site primary care from providers trained in addiction medicine. It is also colocated with a low-barrier overdose prevention site where supplies such as syringes, take-home naloxone kits and drug-checking services are available.

What are the potential harms?

Safe supply may carry a risk of diversion, and this concern is reflected in the inclusion of monitoring and dispensation recommendations within current guidance for prescription of pharmaceutical alternatives.[6] Initially all SAFER participants are asked to use the substances provided on site, and to complete urine drug tests to detect potential diversion (e.g., negative screen for prescribed SAFER medications).

A further concern is that providing pharmaceutical alternatives could perpetuate substance use and undermine engagement in treatment. However, the aim of SAFER is to reduce overdose risk and not necessarily to support abstinence unless this is aligned with a participant's goals. Further, safe supply and treatment for SUDs are not mutually exclusive and can be effectively provided concurrently.

What is the evidence so far?

Previous clinical trials have shown the efficacy of intravenous diacetylmorphine (heroin) and hydromorphone (forms of injectable OAT) for patients not benefiting sufficiently from methadone alone.[7,8] In addition, emerging evidence suggests that certain prescription psychostimulants may be effective treatments for stimulant use disorder.[9] However, these studies were conducted in highly controlled, medicalized settings before the emergence of fentanyl in the unregulated drug supply, which may affect the effectiveness of the aforementioned medications.

Recent evaluations of tablet hydromorphone distribution programs in Vancouver and London, Ontario, showed improvements in health, economic security and pain management, as well as reduced unregulated drug use.[10,11] These evaluations also identified key challenges, including lack of alternative medication options available to program participants.[11,12]

To date, SAFER has enrolled 58 participants, with a similar number on a wait list until a larger physical space allows for increased capacity. Initial informal assessments suggest that participants note benefits from having new options when conventional forms of treatment and harm reduction have not been efficacious, and program clinicians describe improved chronic disease management and increased medication adherence.

A scientific evaluation of SAFER, funded by Vancouver Coastal Health, will assess the effectiveness of the program in meeting its objectives of reducing risk of overdose and supporting access to the continuum of care (e.g., primary care, harm reduction and SUD treatment), without generating unintended harms. Two of the coauthors (M.C.K. and T.K.) are leading the evaluation, in collaboration with SAFER program operators and with ongoing involvement of partner organizations and people with lived or living experience of substance use. For the evaluation, a prospective cohort of about 200 SAFER participants is being established. Data collection will include baseline and semiannual questionnaires over a 2-year period, which will be confidentially linked to program data and a range of external administrative health databases (e.g., vital statistics, ambulatory care services). In addition, a subset of about 40 cohort participants will participate in in-depth qualitative interviews at baseline and at 3 to 6 months after enrolment. This will allow for longitudinal statistical analyses to examine key outcomes of interest (e.g., nonfatal and fatal overdose, medication adherence, uptake of other services), as well as qualitative investigation of the lived experience of participants to elucidate individual and contextual influences on program engagement and outcomes.

What can be expected in the future?

Although SAFER is initially operating only in Vancouver, similar safe supply programs have been implemented or are being considered in other Canadian settings. Including SAFER, Health Canada has funded 18 safe supply pilot programs since 2019.[13] Future research should assess how different features and contexts of such programs (e.g., available medications, delivery models, policy contexts) influence effectiveness. Given strong

consensus among experts that safe supply is among the most promising measures to curb the drug poisoning crisis, it is critical to remove barriers to access, expand coverage, conduct rigorous evaluation and refine delivery approaches to maximize potential impacts.

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Competing interests: Sukhpreet Klaire is a physician and Christy Sutherland is the medical director for the PHS Community Services Society, a nonprofit organization that operates the Safer Alternatives for Emergency Response (SAFER) program in partnership with Vancouver Coastal Health. Christy Sutherland also reports grants from Health Canada and consulting fees from AIDS Vancouver Island, outside the submitted work. No other competing interests were declared.

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