The Drug Toxicity Crisis

Summary of environmental scan findings to inform the *Greater Sudbury Summit on Toxic Drugs*

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Introduction

Northern Ontario has been and continues to be disproportionately impacted by the escalating drug toxicity crisis. Per capita, the opioid toxicity death rate is more than 3 times higher than the rest of Ontario.

Findings from local and provincial data, the best available literature, and a scan of local services were compiled to provide a snapshot of the current drug toxicity problem in Sudbury and surrounding area as well as potential strategies to address escalating mortality and morbidity due to this crisis. This report summarizes the key findings of the full report: *The Drug Toxicity Crisis: An environmental scan to inform the Greater Sudbury Summit on Toxic Drugs*. The summary report is intended to inform and guide the deliberations of local leaders and all participants of the City of Greater Sudbury Summit on Toxic Drugs, December 7–8, 2023. For a thorough and fulsome discussion of the available evidence, including statistics, readers are encouraged to refer to the comprehensive Environmental Scan.

Focusing specifically on the impacts of the opioid or toxic drug crisis in Sudbury and districts, available data indicates elevated and rising numbers of deaths. The number of opioid-related deaths increased dramatically, from 17 deaths in 2016 to 112 deaths in 2022. This represents an increase of 559% over 6 years (OAHPP, 2023a; Office of the Coroner of Ontario, 2023). Between 2020 and 2022, opioid-related death rates in Greater Sudbury and all Northern Ontario communities were the highest of any region in the province.

Each death from acute drug toxicity is a tragedy and is an immediate and impactful insight into the local crisis. Illness (morbidity) data—such as the number of City of Greater Sudbury EMS calls for suspected opioid incidents and the proportion of suspected opioid-related incidents in which EMS transported the patient to a hospital—also contributes to understanding the local situation of increasing drug use and toxicity and helps to contextualize the crisis.

Illnesses and deaths caused by acute drug toxicity are devastating to the family and friends of people who use drugs and are upsetting and damaging to the social and ethical fabric of our community. The drug toxicity crisis is a complex whole-of-society challenge that requires a collaborative and comprehensive response and collective action by the community, people with lived and living experience, and stakeholders across all sectors.

Factors associated with drug use and toxicity

Research evidence and community context highlight a multitude of factors that contribute to drug use and the harms associated with drug toxicity. Each person's holistic sense of health and life—whether they consume legal or illicit substances—is unique. An individual's race or ethnicity, sex or gender, sexual orientation, history of and exposure to violence, trauma, and abuse, or where they were born are all inextricably connected factors.

While each person is unique, there are patterns and factors known to protect against or contribute to the likelihood of drug use. The following highlights the most important overarching and unique factors associated with drug use that are relevant to our geographic region. Overall, these factors either fall within individual demographic or societal and structural considerations.

Individual demographic considerations

Race and ethnicity

Racialized populations including Black, Indigenous, and People of Colour (BIPOC) across Ontario face disproportionately high rates of poisonings and death due to drug toxicity (Friesen et al., 2021; COO & ODPRN, 2021; Sapoznikow, 2022; Sansone et al., 2022).

Locally, within the Public Health Sudbury & Districts service area (inclusive of 13 First Nation communities), 13.9% of the population identifies as Indigenous; a rate that is almost 5 times as high as the provincial rate of 2.9% (Statistics Canada, 2023). Indigenous Peoples are at an increased risk of experiencing acute drug toxicity deaths due to the structural impacts of colonization, intergenerational trauma, poverty, child apprehension, and the ongoing systematic racism experienced today (Health Canada, 2023e; ODPRN & PHO, 2023; COO & ODPRN, 2021; Friesen et al., 2021; Lavalley et al., 2018; Lavalley et al., 2020; Wendt et al., 2021; Maar et al., 2022; Thumath et al., 2021; Sansone et al., 2022). Data demonstrates that, in Ontario, the rate of opioid-related mortality is four times higher for Indigenous Peoples compared to the general population (COO & ODPRN, 2021). In addition, Indigenous Peoples experience lengthy wait times and a lack of post-treatment supports when accessing culturally safe treatment and health care options (Lavalley et al., 2020).

Greater Sudbury is also experiencing a change in local demographics, with growth in newcomer populations, including Black and visible minorities. According to the most recent Statistics

Canada census, visible minorities make up a larger proportion of the total population in Greater Sudbury (e.g., 3.8% in 2016 to 6.6% in 2021) (Statistics Canada, 2023). Similar increases during this time period were also reported for individuals from South Asian and Black ethnicities. (Statistics Canada, 2023). Research shows that like Canada's Indigenous communities, racialized communities (particularly from the United States) face similar drug toxicity mortality rates and substance use related experiences (Sapoznikow, 2022).

The unique demographic considerations of racialized populations including Black, Indigenous, and People of Colour must be further examined when reviewing factors associated with drug use and toxicity. Despite unjust treatments and experiences, many individuals and communities possess assets that can and should be built upon.

Age and sex or gender

Age and sex are highly correlated with local opioid-related deaths. Between 2020 and 2022, the 25 to 44 age group had the highest proportion of opioid-related deaths in Sudbury and districts, accounting for 60% of deaths, followed by the 45 to 64 age group at 29.6% (OAHPP, 2023b). Males 25 to 44 years accounted for 45.6% of all opioid-related deaths in Sudbury and districts, compared to 14.4% of females of the same age range (OAHPP, 2023b).

Compared to pre-pandemic periods, a slight increase in drug toxicity in Ontario was also observed among females 25 to 44 years between March 2020 and December 2021 (Gomes et al., 2023). Women who use drugs and gender-diverse persons have been disproportionately and uniquely impacted by socio-structural barriers and social determinants of health related to the unregulated and toxic drug supply (PHO, 2022).

During the pandemic, Ontario also experienced an increase in acute drug toxicity events and emergency department visits among youth (aged 15 to 24) exacerbated by non-prescription opioids (Iacono et al., 2023; Russell et al., 2019). Trend data between 2014 and 2021 suggests that opioid toxicity emergency department visit rates more than quadrupled and deaths tripled among adolescents and young adults (Iacono et al., 2023). Between 2020 and 2022, close to 1 in 10 youths (8.7%) aged 15 to 24 lost their life due to an accidental opioid-related death in the Sudbury and districts area (OAHPP, 2023b). From 2021 to 2023 (year to date), 10.2% of youth aged 15 to 24 experienced a suspected opioid-related incident that required attendance by the City of Greater Sudbury's Emergency Medical Services (EMS) (CGS, 2023)).

Major risk factors (CDC, 2022b; Health Canada, 2023e) for substance use among youth, include:

- family history of substance use and parental substance use
- poor parental monitoring and favourable attitudes towards substance use, poor parental and family relationships, and association with peers who use substances
- lack of school connectedness and low academic achievement

- family rejection of sexual orientation or gender identity
- childhood sexual abuse

Employment and history of incarceration

While evidence clearly demonstrates poverty as a key factor for illicit drug use, deaths due to acute drug toxicity are high amongst those working in lucrative careers such as mining, forestry, and the trades (Statistics Canada, 2021). For example, one-third of acute drug toxicity deaths in Ontario involve individuals employed within the construction industry (Gomes et al., 2021). In many instances, these occupations are also male dominated.

The North American Industry Classification System states that in Ontario in 2017, 8.4 % of individuals worked in mining, quarrying, and oil and gas extraction, 0.7% worked in utilities, 7.8% worked in construction, and 4.4% worked in transportation and warehousing (Statistics Canada, 2023). In comparison, based on the National Occupational Classification from 2021, 19% of individuals worked in the trades, transport, equipment operators and related occupations, 5.2% worked in natural resources, agriculture, and related production occupations, and 2.5% worked in occupations in manufacturing and utilities across the Public Health Sudbury & Districts area (Statistics Canada, 2023).

People who have a history of incarceration are also at increased risk of acute drug toxicity deaths, drug-related harms, and risks such as injury, illness, and emergency room visits (Butler et al., 2023; Friesen et al., 2021; van Draanen et al., 2020; Jalali et al., 2020; Gan et al., 2019; Gan et al., 2020; Kinner at al., 2021; Groot et al., 2016). Data suggests that 15.6% of all acute drug toxicity deaths were experienced by people with a history of incarceration within the past year (Butler et al., 2023), and that most deaths occurred *more than 2 weeks* post release while non-fatal drug toxicity events occurred within the first 2 weeks of community integration (Kinner et al., 2021).

Mental health status

Inextricably linked to any meaningful conversation about addictions is the acknowledgement and impact of an individual's mental health status and the availability and access to mental health supports. Based on the 2019 and 2020 Canadian Community Health Survey data, 10.6% of Public Health Sudbury & Districts residents perceived their mental health as fair or poor compared to 9.8% of Ontario residents (Statistics Canada, 2022). Despite this data, there are no statistically significant differences between area residents and Ontario.

Most available evidence demonstrates a strong relationship between individuals who have died from acute drug toxicity and prior known diagnoses of psychotic disorders and trauma- or stressor-related disorders (Gomes et al., 2022a). Among Ontarians experiencing homelessness,

more than 90% of people who died of an opioid-related poisoning had visited a health care provider for a mental health-related reason in the 5 years prior to their death (Gomes et al., 2022a).

Societal considerations

Housing, homelessness, and poverty

According to the 2021 census, 10% of the population of Greater Sudbury were living in poverty (as defined by the Low-Income Measure, after tax) in 2020 (Statistics Canada, 2023). Note that this proportion was reduced by the Canada Emergency Response Benefit (CERB), provided by the Government of Canada beginning March 15, 2020 (Statistics Canada, 2023).

Also, a local, 2018 point-in-time count reported 1954 individuals who identified as either absolutely homeless, hidden homeless, or at-risk of homelessness; an additional 224 were dependent children under the age of 18, of whom participants had custody (Kauppi et al., 2018). Some of the top reasons reported in the point-in-time count were substance use disorders along with job loss, inability to pay rent or mortgage, and unsafe housing conditions (Kauppi et al., 2018). In addition, there was a 5-year wait time in 2020 for a one-bedroom subsidized unit in Greater Sudbury, and a wait list of over 1000 residents for rent geared-to-income housing (City of Greater Sudbury, 2020). The availability of safe, affordable, and adequate housing is a significant consideration for illicit drug consumption, which was exacerbated by the COVID-19 pandemic.

One in 7 deaths due to acute drug toxicity in Ontario was experienced by an individual in a shelter, supportive housing, or hotel provided as emergency settings for people experiencing housing instability or homelessness during the pandemic (Gomes et al., 2021; Friesen et al., 2021). According to a report from the Northern Policy Institute, in 2021 66% of individuals experiencing homelessness in the Greater Sudbury area reported struggling with their mental health and 80% struggled with addictions (NPI, 2022). In the Manitoulin-Sudbury area, rates were 72% and 44% for mental health and addictions, respectively (NPI, 2022).

Moreover, people who use substances while experiencing homelessness endure overlapping systemic barriers, including challenges accessing appropriate care, housing, and food and the impacts related to stigma (Magwood et al., 2020; CAMH, 2021a; Milaney et al., 2021; Bolinski et al., 2022; Bragazzi, 2021). It is important, however, to note that not all individuals living with low-income levels are experiencing homelessness. Data demonstrates that individuals who live with low incomes are more likely to die of an opioid-related poisoning and are 5 times more likely to visit the emergency department (Alsabbagh et al., 2022).

A contaminated drug supply

Officials are aware that the current drug supply is often adulterated with other substances, of known and unknown potency, in efforts to increase bulk and enhance effects for greater profits. As a result, the unregulated and contaminated drug supply presents great risks and harms to people who use drugs, their families, and communities (PHAC, 2023), the greatest of which includes accidental poisonings and deaths (CCSA, 2020). The unregulated market also impedes local, provincial, and national governments from implementing appropriate responses (ODPRN & PHO, 2023; Moore, K. M., & Huyer, D., 2023; CCSA, 2020; CCSA & CCENDU, 2020; Réseau ACCESS Network, 2022).

A changing landscape of drug use

Intentional or unintentional polysubstance use, or the use of other substances in addition to opioids, may be a contributing factor to rising fatalities in Canada (ODPRN & PHO, 2023; Konefal et al., 2022). The increasing prevalence of the inhalation of substances via pipe and foil also contributes to the changing landscape of drug use (Gomes et al., 2021; Giliauskas, 2022; PHAC, 2023, Friesen et al., 2021; CFMS, 2022; PHO, 2023; Speed et al., 2020).

Structural and systemic considerations

Government laws and policies

The origins of the current *Controlled Drugs and Substances Act* (1996) are thought to be rooted in moral panic and racism and are said to contribute to the present-day toxic drug crisis (Office of the Provincial Health Officer, 2019).

Between 1908 and 1960, Canada's first narcotics law, the *Opium Act* of 1908, was renamed and amended many times and led to prohibiting the sale and possession of narcotics such as morphine, opium, cocaine, and eucaine. Associated penalties were increased for related convictions, possession and use were criminalized, and law enforcement was granted broader authority to investigate suspected violations (Office of the Provincial Health Officer, 2019; Owusu-Bempah & Luscombe, 2021; MacKay, 2018). Unfortunately, unanticipated consequences of these actions were the smuggling of banned opioids and adulteration of the drug supply with substances such as heroin, morphine, and codeine (Boyd & Norton, 2019; Montigy, 2011).

Between 1961 and 1996, the Canadian government continued to enact illicit drug-related policies and initiatives. Of particular importance was Health Canada's approval of controlled-release oxycodone (OxyContin) in 1996 to treat moderate pain. For people who use drugs, prescription opioids such as OxyContin were most common (Fischer & Keates, 2012). Approval was

rescinded, and OxyContin delisted as an approved prescription opioid in Canada in 2012. The delisting, unfortunately, did not correspond with a reduction in use, but a move to heroin and then fentanyl, a more potent and easily concealed opioid. Tragically, targeting one drug of choice for prohibition was not as effective as hoped, and the toxic drug crisis emerged in the aftermath of those decisions (Fischer et al., 2015).

Criminalization

In the early 1970s, it was recognized that the criminalization of substances was counterproductive to its purpose and resulted in more harm than the harms from the substances themselves (Office of the Provincial Health Officer, 2019; BCCSU, 2019). Furthermore, these harms, which included social stigma, were disproportionately experienced by equity-deserving groups including Black and Indigenous Peoples (CAMH, 2021b).

Stigma and discrimination

People who use drugs experience stigma at multiple levels, including self-stigma, social stigma, and structural stigma (Livingston, 2020, p.4; Office of the Provincial Health Officer, 2019). Evidence suggests that such stigma and discrimination impact the likelihood that people who use drugs will seek health and social related services and supports (PHO, 2020; BCCSU, 2022; CAPUD, 2019; Pauly et al., 2017; Office of the Provincial Health Officer, 2019). These harms are exacerbated when they are experienced at the intersection of other forms of discrimination and oppression such as racism, sexism, classism, and homophobia (Pauly et al., 2017; Livingston, 2020).

Best practices to address concerns

While various approaches and strategies to address substance use have saved lives, there continues to be high levels of acute drug toxicity deaths and poisonings in Ontario with an overrepresentation of marginalized populations (Office of the Provincial Health Officer, 2019). Approaches often characterized by service providers working in isolation, the gaps and barriers to accessing services, and the limited capacity to adapt the availability of services to treat each person as a unique individual, are all factors understood to contribute to the mortality and morbidity our community is experiencing from drug toxicity.

The best practices presented in the Environmental Scan highlight a range of preventative measures, innovative strategies, and adaptative solutions that can help mitigate the harms and risks related to drug use and drug toxicity. Health agencies, individuals with lived experience, families, communities, drug policy advisors, and academics unanimously call for an interdisciplinary-based approach of wraparound services to adequately address substance use.

Treatment best practices

Opioid agonist therapy

Compared to abstinence-based substance use treatment practices that were standard prior to the late 1980s, opioid agonist therapy (OAT)—providing controlled doses of opioid agonists to patients—continues to be one of the gold standard treatment interventions.

Opioid agonist therapy, including supervised injectable opioid agonist treatment (siOAT), has the ability to decrease risk behaviours, criminal activity, and exposure to the toxic drug supply (PHO, 2023; Morin et al., 2020; Magwood et al., 2020). Opioid agonist therapy has also been shown to increase retention rates, HIV and hepatitis C virus testing, mental and physical health, and improve access to some social services and health care supports (PHO, 2022; Bruneau et al., 2018; Magwood et al., 2020; Pijl, 2022). While supervised injectable opioid agonist treatment has demonstrated greater effectiveness compared to conventional opioid agonist therapy treatment, it is a second line treatment option which requires an assessment by a qualified professional to determine fit and suitability as a treatment option (PHO, 2017; BCCSU, 2022; PHO, 2022).

Common opioid agonist therapies include methadone, slow-release oral morphine (SROM), and buprenorphine/naloxone. When compared to methadone and slow-release oral morphine, the use of buprenorphine/naloxone is the preferred and recommended option of opioid agonist therapy due to its superior safety profile, longer lasting effects, potential for take-home doses, lower rates of health care visits, and lower risk to public safety (Gomes et al., 2022a; Iacono et al., 2023; Bruneau et al., 2018; Franklyn et al., 2016; BCCSU, 2017; Gomes et al., 2022b).

Mental health supports

Evidence also indicates that selected counselling and mental health services should be offered alongside various treatment methods. Morbidity and mortality rates are improved when people who use drugs also receive psychosocial and psychiatric treatment interventions. These interventions help to address the root causes of addiction (HQO, 2018; Morin et al., 2020; Bruneau et al., 2018).

Harm reduction best practices

Harm reduction refers to a suite of strategies that aim to reduce drug-related harms such as death, disease, and injury, without requiring an individual to stop drug use. Harm reduction interventions can be targeted at the individual, family, community, or societal level (CDS, 2023).

In contrast to opioid agonist therapy and residential treatment programs, a harm reduction approach does not focus on stopping drug use, but rather on minimizing the harms and risks related to drug toxicity (Health Canada, 2023a; ODPRN, 2023; PHO, 2022; Kolla et al., 2022). Often, harm reduction programs are integrated into wraparound service models, embedded within supervised consumption or drug checking services, and connected to mental health and social services (PHO, 2022).

Laws and policy-related initiatives

One of the more novel and controversial harm reduction approaches argues for the decriminalization, legalization, or dis-regulation of all controlled substances. This approach to addressing drug toxicity suggests reforming current restrictive drug policies to explore the potential of integrating low-barrier safer supply frameworks.

Safer supply is defined as “the legal and regulated supply of drugs with mind/body altering properties that traditionally have been accessible only through the illicit drug market” (CAPUD, 2019, p.4). In some cases, such as prescriber-based models of safer supply, licenced professionals can replace tainted or toxic drugs with less harmful substances. For example, this is seen in opioid programs with prescribed hydromorphone tablets (HDM) and non-opioid programs with stimulants and benzodiazepines to name a few (ODPRN, 2023; Health Canada,

2023a; PHO, 2022). Research has demonstrated that safer supply programs help decrease the rates of acute drug toxicity deaths, poisonings, hospital admissions, emergency room visits, criminal activity, infections, mental health hardships, health care costs, and the overall use of fentanyl and other illicit street substances (Health Canada, 2023a; ODPRN, 2023; Gomes et al., 2022a; PHO; 2022).

On the other hand, some studies report that there continues to be gaps in evidence on safer supply models, including information on specific factors that may impact program outcomes. Selected factors have been identified as possible risks impacting program effectiveness and adoption of services. The risks include factors such as a potential for diversion (e.g., medication sharing), unsupervised dosing (e.g., take home doses), and continued client withdrawal resulting from not adequately titrated with available medications or a restricted range of medication. Therefore, people who use drugs may return to the unregulated drug supply for preferred mind and body properties (CAPUD, 2019, p.4; BCCDC, 2018; Atkinson, 2023; Haines et al., 2022; Foreman-Mackey et al., 2022; ODPRN, 2023; Karamouzian et al., 2023; PHO, 2022).

Other risks include limited stimulant, benzodiazepine, or drug checking test strip services, public perception, location of services (rural or remote vs. urban, mobile services), insufficient external counselling, and an inequitable access to supports and tailored services for different subpopulations (e.g., Indigenous Peoples, youth and people experiencing homelessness) (BCCDC, 2018; Atkinson, 2023; Haines et al., 2022; Foreman-Mackey et al., 2022; ODPRN, 2023; Karamouzian et al., 2023).

As an emerging area of work and approach for consideration, there is a clear need to continue to evaluate and review evidence on short and long-term outcomes of existing safer supply programs to better inform adoption or implementation of the model (PHO, 2022).

Supervised consumption sites

Supervised consumption sites (SCS) are an important harm reduction strategy used across Canada. As of September 2023, 39 locations were authorized and providing a range of services. Since 2017, an estimated 340 000 unique clients have accessed supervised consumption sites, with some sites supporting roughly 400 visits each day (Health Canada, 2023d). SCS provide individuals with a clean, safe environment with enhanced access to sterile equipment under the supervision of a health care professional, a trained allied service provider, or a peer (e.g., a person who formerly used or currently uses drugs) without the risk of incarceration. These sites have connected people who use drugs with up to 239 000 referrals to treatment programs, medical care services, mental health supports, and housing (Health Canada, 2023d).

Despite supervised consumption sites having a proven track record of reducing mortality and morbidity caused by drug toxicity, burdensome requirements to demonstrate community need, federal and provincial application processes, budget constraints, temporary funding envelopes,

minimal human resources, and jurisdictional supports create significant barriers to establishing and operating these services (CCSA, 2020; Russell et al., 2020).

Drug checking services

Drug checking services is another harm reduction approach demonstrated to decrease harms and risks related to the toxic drug supply (PHO, 2017; Maghsoudi et al., 2022). Whether embedded in the wraparound services within a supervised consumption site, or offered as a stand-alone program, this vital service informs people who use drugs if their current drug supply is contaminated. In addition, drug checking services can be used for issuing public health alerts and as a way of attracting people who do not regularly use harm reduction interventions (PHO, 2017; PHO, 2023).

Naloxone

Naloxone programs are an important intervention to temporarily reverse the effects of an opioid poisoning (Health Canada, 2023b; CRISM, 2019; Moustaqim-Barrette et al., 2021). Many provinces and territories have ensured that naloxone kits are provided at various sites such as pharmacies, shelters, correctional facilities, addictions centres, health care clinics, and harm reduction sites to ensure people at risk of experiencing an opioid poisoning or people at risk of witnessing an opioid poisoning, can access naloxone (Health Canada, 2023b; CRISM, 2019). Unfortunately, given the rise of polysubstance use of opioids, stimulants, or other substances causing prolonged sedative effects (e.g., benzodiazepines or xylazine), the efficacy of naloxone is reduced (CCSA & CCENDU, 2022; Moore, K. M., & Huyer, D., 2023).

Outreach and wraparound services

Various outreach interventions—episodic or site-specific outreach, peer outreach, or outreach by medical or social service providers—also help to reduce the harms and risks associated with drug toxicity (PHO, 2023a). Outreach services can include needle syringe programs, drug checking services, HIV and hepatitis C testing, crisis support, and educational opportunities (PHO, 2023a). Mobile services have also been used to increase accessibility of overdose prevention services by delivering services to northern, rural, and First Nation communities (Bolinski, 2022; Atkinson, 2023; BCCDC, 2018).

When considering best practices for treatment, prevention, or harm reduction in relation to substance use and overdose prevention, interventions that work across multiple levels of the social-ecological model (SEM) are more likely to be successful (Minnesota Department of Health, 2022). Considered non-clinical supports, these wraparound services are critical to mitigating the harms and risks related to poisonings and acute drug toxicity deaths in Ontario.

Given the complex and interacting nature of factors associated with opioid-related morbidity and mortality, tailored and targeted outreach interventions are required. When planning and delivering outreach interventions and wraparound services, particular consideration should be given to how societal, system-level, and individual factors interact, resulting in increased risk. See the full Environmental Scan report, *The Drug Toxicity Crisis: An environmental scan to inform the Greater Sudbury Summit on Toxic Drugs,* for a fulsome discussion on this issue.

Systemic change and collective action

It is important to recognize that a range of risks factors related to substance use, such as poverty, mental illness, drug availability, harmful school environments, peer influence, housing instability, and trauma can reinforce negative health outcomes (Health Canada, 2023e). A comprehensive, population, and public health approach must therefore target the multiple levels that influence the determinants of health at the individual, interpersonal (such as family and schools), community, and societal levels. The following sections highlight important actions that can collectively contribute to systemic change.

Upstream prevention and protective factors

Focusing on opportunities to support upstream preventative measures and protective factors is crucial to delay the onset of substance use disorders, particularly during early adolescence, to ensure harms and risks are reduced (Iacono et al., 2023).

Prevention services occur on a continuum, often referred to as upstream and downstream. While downstream interventions tend to focus on individuals, upstream approaches focus on addressing the root causes of an issue through system level interventions such as policies or large-scale prevention initiatives that have the potential to impact an entire community (Minnesota Department of Health, 2022).

Examples of upstream and prevention services include:

- Using comprehensive educational approaches that help children develop resiliency and positive behaviours can help guard against risk-taking behaviours such as using alcohol, tobacco, cannabis, and illegal drugs.
- Ensuring municipalities and land developers provide safe, adequate, low-cost, and low-barrier housing for individuals and families.
- Fostering communities that support new immigrants, members of the 2SLGBTQ+ communities, Indigenous, Métis, and Inuk Peoples, and others who require supports for mental health and addictions.

Coordinated and collective community action

Substance use is a public health challenge that affects us all. Substance use is often initiated and sustained as a means of coping with unequal opportunities for health and well-being; thus, efforts to prevent an individual from initiating use and supporting others to reduce use or use safely require a coordinated approach of collective community action. This collective action will require support from community partners across all sectors, people with living and lived experience, and engagement from key stakeholders (Khorasheh et al., 2022; Leece et al., 2019).

According to a recent review by Leece and team (2019), communities planning for an effective collective response should consider:

- equity and stigma-related barriers experienced by people with lived and living experience
- processes and infrastructures that support appropriate data collection to inform evaluation and subsequent program and service adjustments
- engagement with people with lived and living experience to inform local actions

The peer-led engagement process is an important consideration that must not be overlooked. Evidence suggests that programs that are led by people with living and lived experience are more appealing to people who use drugs, particularly by those who have had negative experiences accessing traditional treatment and addiction services (Swanson, 2021; Pauly et al., 2020; Broadhead et al., 1998; Wood et al., 2003; McNeil et al., 2014; Grund et al., 1992). As a result, peer-led engagement has the potential to make programming more equitable by fostering communication, building trust, increasing knowledge, and reducing stigma (Greer et al., 2016).

Available services and supports

Locally, many community and partner agencies provide unique and coordinated services to help reduce the impacts of drug use in our community. Echoing the findings found in the literature, the following programs and services offer support across Sudbury and surrounding areas to reduce harms from toxic drug use. Please note that while this is a comprehensive list, it is possible that other, lesser-known services exist beyond those listed below.

Treatment services

Opioid agonist therapy

Various medication assisted treatment clinics are available in the Sudbury area including Ontario Addiction Treatment Centre (OATC) Sudbury, VitaHeal Pharmacy, Northwood Recovery, trueNorth Addiction Medicine Program, and Recovery North. Most clinics provide methadone and suboxone treatment, with 2 clinics offering additional and novel pharmacologic treatments.

Additionally, some opioid agonist therapy (OAT) clinics have established wraparound services, providing access to services ranging from hepatitis C screening and treatment, addictions counselling, traditional First Nation counsellor support, Ontario Works contact support to the provision of safe use supplies, and naloxone kits.

Residential treatment services

Residential treatment programs are limited in Greater Sudbury; however, Monarch recovery services provide numerous residential treatment services, rent subsidy, case management, drop-in programs, and Indigenous aftercare programs. This includes women's treatment, aftercare, pregnancy, and parenting outreach program (PPOP) along with men's recovery home, transient home, and men's day treatment. Additionally, the Canadian Mental Health Association's residential program, Healing with Hope, is a managed alcohol reduction program that supports individuals who are homeless or at risk of homelessness and polysubstance use.

Health Sciences North Withdrawal Management Services (including mobile option); Addiction Medicine Consult Service (AMCS); Addictions Medicine Unit; Outpatient addictions and gambling services; Rapid Access Addiction Medicine (RAAM) clinic, and the Safe Beds Program provide additional substance use treatment services within Greater Sudbury.

Public Health's Sexual Health Clinic; and both Sudbury Nurse Practitioner Centre and the City of Greater Sudbury Community Paramedicine Program offer low-barrier services to a variety of populations.

Indigenous treatment services

According to the First Nations Health Authority, land-based treatment and healing occur when Indigenous Peoples return or reconnect to the land while utilizing supports to relearn, revitalize, and reclaim their traditional wellness practices (First Nations Health Authority, 2023). While not located within Greater Sudbury proper, there are several local Indigenous treatment services that apply Indigenous-based healing approaches for the treatment of mental health and addictions. Three examples include:

- Gwekwaadziwin Miikan Youth Mental Health Addiction program
- Ngwaagan Gamig Recovery Centre
- Benbowopka Treatment Centre

Harm reduction services

Agencies throughout Sudbury have developed and deliver many of the harm reduction best practices discussed above including, but not limited to, sterile needles, injection and inhalation equipment, information about safer drug use, information about safer sex, condoms and lube, community referrals to services, disposal containers for used needles and sharps, and naloxone.

In Sudbury, these organizations include, but are not limited to, Public Health Sudbury & Districts' Needle Syringe Program: The Point, Réseau ACCESS Network, The Ontario Aboriginal HIV AIDS Strategy (OAHAS), The Sudbury Action Centre for Youth (SACY), The Go-Give Project, and Health Sciences North.

Additional tailored harm reduction services to support previously identified marginalized sub-populations include SACY; the Ontario Aboriginal HIV/AIDS Strategy and Shkagamik-Kwe Health Centre, Sudbury's Centre for Transitional Care, and the Elizabeth Fry Society.

Supervised consumption sites

The Spot, currently operated by Réseau ACCESS Network (Réseau), is Greater Sudbury's only safe consumption site (SCS). The Spot is a safe, empathetic place, free of stigma and discrimination, where people can use their pre-obtained drugs.

The Point, a local needle syringe program, provides people who use drugs with some of the previously mentioned wraparound services. These services link clients with health care and harm

reduction professionals so they can access education, sterile equipment, supervised consumption services, social services, and a rapid response in the event of an overdose.

Additionally, Réseau provides onsite drug checking services at The Spot, which can significantly reduce the harms caused by the tainted drug supply. The results from drug checking services provide an opportunity to update people who use drugs on the various adulterants and substances found locally, educate them about the use of tainted drugs and the limitations of testing, and provide Public Health with data to issue drug warnings.

Education and distribution of naloxone kits

Education, training, and distribution of naloxone remains an important best practice to reduce the harms associated with acute drug toxicity. This life-saving medication can be freely obtained through participating Ontario pharmacies, provincial correctional facilities, and the Ontario Naloxone Program (needle exchange programs, hepatitis C programs, consumption and treatment services, and participating community-based organizations).

Outreach and wraparound services

Outreach services are designed to meet those in need where they are, rather than having people seek them out. Many outreach services, such as those provided through Réseau, OAHAS, SACY, and The Go-Give Project, use their outreach services to educate and reduce harms. Often these services are delivered on foot or by vehicle and can include harm reduction supplies (such as injection and inhalation supplies), testing services, or referrals.

Greater Sudbury's Mobile Crisis Rapid Response Team (MCRRT) was developed in partnership with the Greater Sudbury Police Service, Health Sciences North's Emergency Department (utilizing their crisis support workers), and Greater Sudbury Paramedic Services.

Greater Sudbury's Mobile Crisis Rapid Response Team responds to mental health and addictions emergencies. It provides trained crisis workers who can help de-escalate crisis situations, provide an on-site assessment, and connect individuals to community services and supports. This team provides various health services, such as health and wellness checks and mental health and addiction supports in social settings (e.g., housing, and shelters) to best meet the needs of the individuals.

Community Mobilization Sudbury (CMS) is a partnership working to provide comprehensive wraparound services through a collaboration of over 30 partner organizations, representing health, children's services, policing, education, mental health and addictions, housing, and municipal services. One of the organization's key programs is the Rapid Mobilization Table (RMT), which leverages the expertise of representatives from partner agencies to collaboratively identify situations that place Sudbury residents at high risk of harm. All necessary partners then

plan and participate in twice weekly meetings to coordinate responses that connect those at risk with the services and supports that can help.

Upstream prevention services

Upstream approaches, including prevention programs, are critical to reduce substance use and related harms. Acute timely services, including treatment, harm reduction, and outreach are important components of the holistic approach to reduce mortality, morbidity, and the harms from substance use and the toxic drug supply. They must, however, be offered as part of a suite of interventions that also target the social and structural determinants of drug use.

Local school boards, the health care sector, and the many organizations previously noted offer prevention programming, services, and advocacy. They work to provide education, raise awareness, strengthen policies, and build individual and community development assets to support the prevention of drug use and its impacts.

Upstream prevention programs and services lie at the core of Public Health Sudbury & Districts' (Public Health) work. While many initiatives exist, 2 examples of this work include a healthy communities approach and mental health literacy.

Healthy communities approach

Public Health implements a healthy communities approach to its local health promotion programming. Our programs and services support individuals and families across the life stage on a variety of topics of public health concern. We also work in partnership with community partners to target structural-level determinants locally and on a broader scope to have an impact on the health and well-being of individuals and families.

Mental health literacy and education

Increasing mental health literacy is about more than providing people with information; it is about developing skills and empowering individuals with information so they can promote mental health and make informed decisions (Canadian Alliance on Mental Health and Mental Illness, 2008).

Public Health actively weaves mental health literacy throughout our programs and services as part of our mental health promotion work. We use anti-stigma and trauma-informed approaches, focusing on the importance of respectful language to build trust and foster strength-based resilience and a growth mindset.

A growing demand and gaps in services

While harm reduction and local treatment services are available in Greater Sudbury, there remain unmet needs that directly support people who use drugs. These include greater access and availability to services and supports, such as harm reduction supplies and naloxone kits and training opportunities, and increased funding to expand supervised consumption sites and provide residential treatment programs. The increase in polysubstance use, in particular the mixing of opioids and stimulants, also complicates all response efforts, most notably, appropriate health care responses. While the use of telemedicine expanded greatly during the early years of the COVID-19 pandemic, barriers remain for those living in rural and northern communities (Pijl, 2022; Wendt et al., 2021; MHCC, 2021; Morin et al., 2020).

Providing appropriate prevention and wraparound services is also a challenge. Individuals living in northern and rural areas experience disproportionate barriers to accessing mental health programs and services compared to those living in southern Ontario (Leary et al., 2023; Morin et al., 2020; Russell et al., 2019). A shortage of trained professionals (including crisis workers, counsellors, psychologists, and psychiatrists), long wait-times (often exceeding a year to access services), lack of 24-hour crisis services, and fragmented and disconnected mental health and addictions services significantly reduce successful treatment outcomes (Livingston, 2020; Leary et al., 2023; Morin et al., 2020; Russell et al., 2019; HQO, 2018; Taha, 2018).

Since the pandemic, the landscape of drug use has also changed with increased practices of inhalation. Traditional approaches that supported individuals who consume or inject substances do not meet the needs of those who inhale substances. Additional, immediate, and tailored services to reduce negative outcomes associated with non-injection drug routes are needed (Giliauskas, 2022; Ali et al., 2023; PHO, 2023). In response, some supervised consumption sites have enhanced accessibility by implementing smoking sites within their model. Authorization and sanctioning of smoking substances, however, requires additional exemptions from Health Canada and modifications to the physical site, resulting in additional barriers for people who use drugs (Giliauskas, 2022; Public Health Ontario, 2023).

Current services and programs in Northern Ontario communities are struggling to keep up with demand. The complex needs of individuals with substance use disorders, who are also living with a mental health condition and/or housing instability, further complicates the response (ODPRN & PHO, 2023; Gomes et al., 2021). Greater Sudbury lacks available and affordable housing and equitable and timely access to culturally appropriate and high-quality health care services for vulnerable and equity-seeking populations. These challenges are further exacerbated by the self-stigma commonly experienced by people who use drugs and the social and structural stigma and discrimination they face through local programs and services.

Developing approaches to address current gaps in local service provisions is critical. This includes tailored services for youth, women, people with a history of incarceration, construction and trades workers, racialized groups, people who use substances recreationally, people who use stimulants and benzodiazepines, people who inhale substances, and people with concurrent disorders (Iacono et al., 2023, Gomes et al., 2021, Leece et al., 2019; BCCDC, 2017; Giliauskas et al., 2022; Thumath et al., 2021; Speed et al., 2020; Lavalley et al., 2018). Without access to adequate wraparound services including treatment, harm reduction, counselling, and social support services (such as food and shelter), we will continue to lose family, friends, and community members to the toxic drug poisoning crisis.

Conclusion

Despite our collective best efforts to address the current crisis, rates of drug toxicity and mortality remain concerning locally, provincially, and nationally. Demographic, societal, and structural factors contributing to illicit drug use and the toxic drug supply must be examined with a local lens to address systemic root causes that contribute to local drug toxicity.

Best practices proven to reduce harms and risks from toxic drug use are multi-pronged and should consider treatment programs such as opioid agonist therapy and harm reduction models. Supervised consumption sites and naloxone programs, non-clinical wraparound services and supports, and upstream prevention approaches must leverage individual and community strengths.

As this is an evolving issue both locally and globally, it will be important to continue to monitor, review, and share evidence of all types as it becomes available. Only by learning and working together can we identify local pressures, determine the applicability of best practices, and implement short- and long-term solutions in response to the unique challenges Northern Ontario faces in this escalating toxic drug crisis.

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