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Methamphetamine and Related Psychostimulant Use: End-of-Grant Workshop

WHAT WE HEARD REPORT

Workshop Date: February 15, 2022
Location: Virtual Meeting via MS Teams



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Introduction

On February 15, 2022, The Canadian Institutes of Health Research (CIHR) hosted a virtual end-of-grant Knowledge Exchange Workshop for projects funded through the *Methamphetamine and Related Psychostimulant Use funding opportunity*. Seven research teams were funded through this competition, and each team was required to include at least one *knowledge user* in their projects.

This report comprises a synthesis of the evidence presented by the seven research teams and a summary of knowledge user and audience perspectives shared during open discussion sessions.

DISCLAIMER

The following information intends to summarize what we heard at the workshop. CIHR has made every effort to share this text with project participants and workshop panelists for their review. Any errors or omissions are unintentional. This report should not be taken as a definitive account of research results. Readers are advised to follow up directly with grant recipients for the most current information on their projects.

The meeting book for this workshop is available upon request. Requests can be directed to the CIHR Contact Centre: support-soutien@cihr-irsc.gc.ca.

Workshop Objectives

THE PRIMARY OBJECTIVES OF THE WORKSHOP WERE TO:

- share findings to inform ongoing and future development of policies, practices and programs associated with harm reduction, treatment and prevention for methamphetamine and related psychostimulant use harms
- review and discuss advances in intervention-related evidence needs and remaining gaps in the evidence landscape on methamphetamine and related psychostimulant use in Canada
- support engagement among funded research teams and stakeholders to promote the uptake of evidence to support decision making, increase research impact and facilitate knowledge mobilization

Message from the Scientific Director

While concerns about methamphetamine and related psychostimulant use in Canada have been growing, there is a lack of high-quality data on the scale of the issue and its impacts on health care and the health service system.

Under the *Canadian Drugs and Substances Strategy (CDSS)*, the *Canadian Institutes of Health Research (CIHR)* is responding to this need by supporting the creation and mobilization of new knowledge through the *Operating Grant: Methamphetamine and Related Psychostimulant Use*.

The seven projects that were discussed at this end-of-grant knowledge exchange workshop explore the prevalence, incidence and distribution of methamphetamine use in Canada, harm reduction interventions, care for individuals with methamphetamine-induced psychotic disorder, and the impact of the COVID-19 pandemic on methamphetamine use and people who use substances. Projects have also considered sub-populations and the biological and social determinants of methamphetamine use-related harms.

Knowledge shared at this workshop and captured in this report will facilitate evidence-informed decision making for substance use health policy and practice in Canada. Research findings have been shared alongside the perspectives and expertise of knowledge users and people with lived and living experience of substance use — providing a comprehensive view of the topic and enhancing the potential impact of the findings.

Conducting research during the COVID-19 pandemic has been an enormous challenge, particularly given the disproportionate obstacles faced by people who use substances and the services that support them. I am encouraged by the progress and dedication of the Canadian research community and the hardworking health care and substance use health care providers during these difficult times.

This new knowledge is urgently needed now more than ever before and I am grateful to the researchers, knowledge users and people with lived experience who contributed to these projects and shared their work, perspectives, and ideas with us through this important virtual event.



Dr. Samuel Weiss,
Scientific Director,
CIHR-INMHA

A handwritten signature in black ink, appearing to read 'Samuel Weiss'.

Samuel Weiss, PhD, FRSC, FCAHS
Scientific Director, CIHR Institute of Neurosciences, Mental Health and Addiction

Session 1

This session included findings from four projects, followed by a panel discussion where knowledge users discussed implications and applications of the findings.

IN THE SHADOWS OF THE OPIOID CRISIS: THE EPIDEMIOLOGY AND IMPACT OF METHAMPHETAMINE USE IN CANADA

Presented by: James Crispo

This study examined trends in amphetamine-related emergency department (ED) visits in Ontario and whether sociodemographic and/or clinical factors were associated with individuals revisiting the ED within six months.

Amphetamine-related ED visits in Ontario have increased, particularly from 2013 to 2020. A 15-fold increase was observed from 2003 to 2020. This study excluded individuals with attention deficit hyperactivity disorder (ADHD) or narcolepsy and individuals without a provincial healthcare card. Therefore, it is likely that a proportion of highly vulnerable people were excluded from the data and actual numbers are higher.

Emergency department visits increased in males and females, but rates were higher in males (68% of patients were male). Younger adults had the greatest proportion of amphetamine-related ED visits (74% of patients were under age 40).

Among individuals that visited the ED for an amphetamine-related reason, 74.6% revisited the ED for any reason, and 22% revisited the ED for an amphetamine-related reason. Few deaths were reported in this study (1.7% of included participants). Individuals who reported living with psychosis and those who used other substances were more likely to revisit the ED. Individuals who had a primary care physician were less likely to revisit the ED.

The researchers concluded that rates of amphetamine-related ED visits are concerning. They note that a diagnosis of psychosis or other substance use may be useful indicators to identify individuals most likely to benefit from referrals to primary or specialty care. These findings reveal that primary care is a protective factor against avoidable ED visits, suggesting that enhancing primary care enrollment and providing other social supports may improve outcomes for individuals who use amphetamines.

The next steps for this research include examining the actual need for amphetamine-related ED care, understanding barriers to accessing primary care, and assessing the effectiveness of interventions such as education for frontline workers on how to better manage substance-related medical and psychiatric complications.

SCOPING REVIEW OF EVIDENCE REGARDING PSYCHOSOCIAL AND PHARMACOLOGIC INTERVENTIONS FOR METHAMPHETAMINE USE DISORDER AND PROBLEMATIC METHAMPHETAMINE USE: PLANNING AND PRIORITIZING FUTURE RESEARCH

Presented by: Kim Corace

With methamphetamine use and related harms rising rapidly in Canada, this study reviewed recent guidance for methamphetamine use disorder (MUD)/problematic methamphetamine use (PMU), as well as past clinical trials, to assess the benefits and harms of different therapies and examine effects in various subpopulations.

The researchers found little to no research conducted in Canada (70% was from the United States), limiting the ability to generalize results to a Canadian context. In addition, most primary studies focused on adult male populations, with little to no data for several subgroups including youth, pregnant people and incarcerated individuals. Subgroups with some data included: gay, bisexual and other men who have sex with men (19% of included primary studies) and participants with mental health problems (4% of included primary studies). Variability in measures across the included studies made it challenging to compare them and draw meaningful conclusions. Additionally, most treatments were assessed in few trials with small sample sizes, further limiting analysis. Of the studies investigated, 20 psychosocial and 26 pharmacologic (drug) interventions were included.

Most psychological and psychosocial interventions showed some benefit (e.g., reduction in methamphetamine use, abstinence), although the majority were assessed only in single studies. Outcomes investigated included methamphetamine use as the primary outcome, and secondary outcomes including: other substance use, risk behaviours, sexually transmitted infections (STIs), mortality, adverse events and treatment retention.

Psychosocial treatments with the strongest support included contingency management (a behavioural therapy that provides incentives to increase treatment retention or promote abstinence), and the matrix model (a structured, multi-component behavioural intensive treatment model).

Of the pharmacologic (drug) treatments reviewed, bupropion demonstrated benefits across most measures, there was mixed evidence for modafinil, and single-study support for select others (baclofen, methylphenidate, sertraline, bupropion + naltrexone). All pharmacologic studies included a combined psychosocial intervention. Adverse effects were higher for bupropion and modafinil, and some adverse effects were reported for methylphenidate.

This study provides evidence for care providers, policy makers, and people who use methamphetamines regarding interventions for methamphetamine use disorder and problematic methamphetamine use to inform practice, training, public health and raise awareness. Data focused on subpopulations may help tailor education and treatment interventions. To better compare studies in the future, guidance is needed to inform outcome selection and measures in research. More research is needed to guide clinicians in this area, including how to better assess the effects of different interventions in key subpopulations.

The next steps for this research team include continued engagement with knowledge users and people with lived and living experience of methamphetamine use and knowledge mobilization of this study through publications and dissemination of findings.

CONCURRENT USE AND TRANSITION TO METHAMPHETAMINE AMONG PERSONS AT RISK OF OVERDOSE (CUT METH OD)

Presented by: Jane Buxton

This study sought to understand the social and systemic factors associated with methamphetamine use across British Columbia, including transitions to methamphetamine and concurrent use with other substances. The researchers surveyed harm reduction supply distribution site clients, performed urine drug screening, and conducted semi-structured qualitative interviews.

Survey results showed an increase in reported methamphetamine use from 60% in 2018 to 72% in 2019. Individuals who used stimulants and opioids concurrently tended to be younger (under 50), without paid work and experiencing housing insecurity. They were engaged in harm reduction and treatment services, yet used substances with unknown concentrations daily.

Urine testing frequently detected other substances. Of the 454 individuals sampled in 2019 that had methamphetamine detected in their urine, other substances detected included: fentanyl (in 63% of participants), cannabis (47%), morphine (45%), cocaine (40%), codeine (22%) and methadone (21%).

The qualitative research received input from people who used substances at all stages, including the interview guide and interpretation of findings. Peer research assistants performed semi-structured interviews with participants who used methamphetamine with other substances. This study experienced pandemic-related challenges that impacted recruitment, interview format and peer researcher training.

Researchers identified three patterns of concurrent methamphetamine use:

1. **Primarily opioid use:** These individuals used methamphetamine to make opioids last longer, reporting that it saved money and helped them maintain daily activities. Participants often believed that using methamphetamine with opioids reduced their risk of an opioid overdose.
2. **Primarily methamphetamine use:** These individuals often transitioned to methamphetamine from crack cocaine because methamphetamine costs less. They used methamphetamine daily to maintain the “high” and decrease withdrawal symptoms. Alcohol, cannabis and crack were most often used concurrently; participants reported using alcohol and cannabis to “mellow the high” from methamphetamine or used methamphetamine for stimulation while drinking alcohol.
3. **Methamphetamine used concurrently with other substances for recreational purposes and/or to enhance sexual activity:** Participants reported using methamphetamine with GHB, MDMA, cocaine or ketamine to reduce inhibitions and lessen mental health challenges, including feelings of loneliness and social anxiety. Participants reported that concurrent use fostered a sense of belonging within the LGBTQ2S+ community and enhanced sexual and social activities.

A thematic analysis of interviews with people who used methamphetamine with opioids was revised with peer input to focus less on risk (e.g., overdose, stigma) and more on personal safety for survival and wellness. Two overarching themes were identified, personal safety behaviours (e.g., self-regulation and self-care) and interpersonal safety behaviours (e.g., using alongside peers and engaging with peer and public health-led services). This highlights the importance of collaborating with people with lived and living experiences (PWLLE) during all stages of research to ensure results are relevant, meaningful and acceptable.

The researchers note that improving access to age-appropriate services and expanding the availability of both legal and regulated stimulants and opioids may further reduce the harms of concurrent use.

The next steps for this study include ongoing knowledge mobilization through conference presentations, publications and the towardtheheart.com harm reduction website.

WHAT WORKS FOR METHAMPHETAMINE USE DISORDER? A SYSTEMATIC REVIEW OF REVIEWS

Presented by: Mohammad Karamouzian

There is a lack of consensus on the most effective and acceptable interventions for methamphetamine use disorder (MUD). This study aimed to determine the comparative benefits, harms, and unintended impacts of existing psychosocial, pharmacological (drug), and harm reduction interventions in adults with MUD, as well as the most effective combinations of interventions.

Cognitive Behavioural Therapy (CBT) and Contingency Management (a behavioural treatment that provides something of monetary value to patients to incent them not to use drugs) were supported with the strongest evidence base. Both psychosocial interventions were efficacious in reducing methamphetamine and other amphetamine use.

This study reviewed existing evidence on psychostimulants (e.g., methylphenidate, Dexedrine), antidepressants (e.g., bupropion), opioid antagonists (e.g., naltrexone), and anticonvulsants (e.g., topiramate) as potential pharmacological therapies. Little to no effect has been reported for pharmacological interventions, including the use of other psychostimulants. Most studies finding pharmacological interventions to be effective were low quality and based on small sample sizes with high dropout rates and bias. Most studies did not consider the polysubstance nature of substance use and focused on unrealistic outcomes, for example, by overemphasizing abstinence.

No randomized controlled trials (RCTs) on harm reduction interventions (including safer supply) were identified.

Several challenges were encountered during this study. Most of the relevant literature in this area focuses on stimulant use disorder, with an overemphasis on cocaine use disorder. In addition, definitions for polysubstance use differ, as do measurements. The evidence base is limited to specific subgroups of people (e.g., LGBTQ2S+), the length of treatment interventions is often short, and sample sizes are often small.

More research, including longer-term RCTs, is needed to fill critical knowledge gaps. Future research should also consider polysubstance use rather than use it as exclusion criteria. Client-centred outcomes should be emphasized to ensure results are meaningful and consistent with the reality of how substances are used. Finally, clinical research and randomized studies are needed to examine harm reduction interventions for methamphetamine use.

PANEL REFLECTIONS AND DISCUSSION

In this session, panelists reflected on the research results presented, and discussed implications and applications of the findings. Panelists included treatment providers, harm reduction and safer supply providers, and peer workers. Comments were also shared by audience members from various backgrounds including PWLLE, peer support, and clinicians.

Moderator:

Chandlee Dickey, Western University

Panelists:

Paxton Bach, St. Paul's Hospital, Mark Lysyshyn, Vancouver Coastal Health, Michael McLennan, Community Addictions Peer Support Association (CAPSA), Melanie Willows, Canadian Society of Addiction Medicine

Summary of discussion:

- **There is a need for more, and higher quality research in Canada**, to better understand the Canadian context of methamphetamine use. Existing studies are difficult to compare due to variability in outcomes and measures used. Future research needs to work towards common data points and outcomes. Methamphetamine use is increasing, and reasons for use and patterns of use are changing – future research needs to take this into consideration. Involving PWLLE in research is essential to ensure results are relevant, meaningful and acceptable.
- **Social determinants of health cannot be ignored when considering treatment for problematic methamphetamine use.** Access to primary care is important and could be a focus of interventions for individuals seen in the emergency department. Programs such as Rapid Access Addiction Medicine Clinics can connect people with different parts of the system depending on their needs, providing a menu of options focusing on primary care and social determinants of health.

- **Interventions need to be informed by PWLLE.** There is no one size fits all treatment. From the perspective of a PWLLE workshop participant: People use substances including methamphetamine for different reasons; it could start as a social activity that progresses into something that cannot be controlled. People must have access to multiple types of support rather than being siloed into one avenue that may not work for them. Some of the key supports in recovery may help to manage challenging tasks and emotions (e.g., stress and anxiety from daily tasks, social engagement or maintaining employment) that otherwise would trigger a desire to use stimulants.

“I wouldn’t be here today without the support of many individuals and institutions. I understood the knowledge and what I needed to do, but needed help applying it to my life.”

- **Access issues must be addressed.** Proven treatments for methamphetamine use disorder, such as cognitive behavioural therapy and contingency management, are completely inaccessible across the country. Some hospitals have tried creating programs and found that they are often not difficult to set up – one trained clinician in a room can often be enough to make a difference.
- **We need to better understand the intersection of methamphetamine use and the opioid crisis.** People are dying of opioid overdoses and an increasing proportion of them have methamphetamine in their system. There is a shift where people are using different stimulants, and we need to understand why.
- **Harm reduction programs and research are needed.** People at different stages of their journey with substance use often need harm reduction while they are receiving treatment. Stigma is a major barrier for individuals that experience relapse. Safe supply programs have been established with opioids that act as a bridge between harm reduction and treatment to stabilize people so that they can benefit from other therapies.

“If we can bridge the gap between problematic use and treatment more effectively, for example, with safe supply programs, we can provide people with a great foundation to support their recovery.”

- **Indigenous Peoples, particularly those on reserves and in isolated communities, don’t have access to substance use treatments.** These communities experience stigma and suffer from an extreme lack of funding. There is a huge need to improve access to primary health care and for on-reserve treatments. Many people who leave the reserve to seek treatment struggle when they return because of a lack of local resources to support their health and wellness.

Session 2

This session included findings from three projects, followed by a panel discussion where knowledge users discussed implications and applications of the findings.

A PARTICIPATORY APPROACH TO IMPLEMENTING PEER-RUN INHALATION OVERDOSE PREVENTION SERVICES

Presented by: Jenna Van Draanen

This project aimed to understand the factors that affect access to, support for and implementation of a peer-run, outdoor supervised smoking facility (SSF). In addition, the researchers plan to create an implementation toolkit to support wider adoption and scale-up of the established model of peer-run SSF.

A survey of 200 SSF clients revealed that 67% of people using the SSF were visiting at least daily, 74% were using stimulants daily, and 94% were using opioids daily. Seventy-three percent of participants reported experiencing an issue with accessing the SSF (e.g., waiting too long, the site being closed, or poor weather).

The COVID-19 pandemic was associated with increased use of the SSF site, people using alone more often (56% of respondents), paying more for substances (55%), increasing the frequency of substance use (40%), and changing the source of their substances (40%) or having difficulty finding the substances they were seeking (33%). Some individuals (32%) reported using a different substance since the pandemic began. Changes in harm reduction practices since the beginning of the pandemic included sharing equipment less often (40% of participants), using overdose prevention sites such as the SSF (39%), accessing safe supply (36%), and cleaning supplies and surfaces (34%).

Individuals who access the SSF proposed several changes to improve future SSF services. These included providing an area to relax and socialize, a washroom and handwashing facilities, moving to an indoor location, integration with health and social services, and easier access to personal protective equipment related to COVID-19 and COVID-19 testing.

The research team hired local artists to share some of the research results and share harm reduction messages with people in the community (e.g., don't use alone). The site faced numerous challenges, including being forced to move locations more than once and losing key staff members. These challenges emphasize how difficult it is to implement harm reduction services, which was even harder because of the pandemic. COVID-19 restrictions also limited the scope of data collection, limited the number of days and number of people that could be on-site, and prohibited the team from conducting in-person interviews.

The next steps for this project include creating an implementation toolkit to support the scale-up of the peer-run SSF model and additional knowledge mobilization through peer-reviewed and community-led publications.

A META-ETHNOGRAPHY OF METHAMPHETAMINE USE: MOBILIZING QUALITATIVE SYNTHESIS AND THE LIVED EXPERIENCES OF PEOPLE WHO USE DRUGS TO INFORM HARM REDUCTION AND PUBLIC HEALTH INTERVENTIONS IN ALBERTA

Presented by: Rebecca Haines-Saah

This project aims to ensure that harm reduction and public health interventions for mitigating negative outcomes of methamphetamine use among vulnerable populations are responsive to the lived experiences of people who use drugs (PWUD). The researchers will be looking specifically at literature that engages with and represents the unique needs and experiences of PWUD to ensure that the project findings can inform interventions, policies and programs that resonate with PWUD.

This project has three objectives:

- Synthesize the existing qualitative literature on the lived experience of methamphetamine use
- Work closely in partnership with the Alberta Alliance Who Educate and Advocate Responsibly (AAWEAR), a provincial organization representing PWUD, to validate, translate, and extend the synthesis findings, and
- Develop a research agenda for addressing identified knowledge gaps on the lived experience of methamphetamine use

This study has experienced significant delays due to the COVID-19 pandemic. Public health restrictions have prevented the in-person consultations that have been deemed essential for appropriate engagement with this vulnerable population. A literature search and preliminary screening has revealed approximately 100 articles with a high focus on gender, pregnancy and parenting. Some identified research focuses on urban versus rural settings and youth. The researchers report finding very few qualitative studies from Canada. Most research is from the United States, and some is from Australia. This project is ongoing and expected to have more findings to share towards the end of 2022.

PREDICTING FUTURE PRIMARY PSYCHOTIC DISORDERS IN YOUTH WITH METHAMPHETAMINE-PSYCHOSIS DISORDER

Presented by: Tania Lecomte, Donna Lang

Psychosis is a major issue among people who use methamphetamine. Forty-three percent of stimulant users will have a psychotic episode in their lifetime, and of these, nearly 30% will go on to develop a primary, chronic psychotic disorder (e.g., schizophrenia). There are currently no guidelines or assessments to determine who is at higher risk of progressing from an initial methamphetamine-induced psychotic disorder to a more persistent psychosis.

Recovery from mental illness is improved with the rapid implementation of evidence-based interventions. This project aims to identify reliable markers and develop a screening tool that will help clinicians determine where to send patients for post-emergency treatment.

This project has experienced delays due to the COVID-19 pandemic. Recruiting participants has been slow due to hospital access restrictions and the need to access individuals soon after their hospitalization for stimulant-induced psychotic disorder. Staff shortages within the health system have also resulted in research challenges.

To date, the team has conducted a scoping review of the less-studied variables in their protocol (i.e., social cognition), confirming that these variables have great potential to inform a screening tool. In addition, all psychological/psychiatric testing has been converted to online methods, allowing participants to be tested without the research team needing to be in direct physical contact with participants. The research methodology has been expanded to include a retrospective sample of people who have already been diagnosed with schizophrenia to compare early predictors and variables between these individuals and those who experience an initial psychotic episode due to stimulant use.

PANEL REFLECTIONS AND DISCUSSION

In this session, panelists reflected on the research results presented, and discussed implications and applications of the findings. Panelists included a clinician, a peer support worker, and a harm reduction worker. Comments were also shared by audience members from various backgrounds, including PWLLE, clinicians and research teams.

Moderator:

Chandlee Dickey, Western University

Panelists:

Amal Abdel-Baki, Centre Hospitalier Universitaire de l'Université de Montréal, Michael McLennan, Community Addictions Peer Support Association (CAPSA), Tara Taylor, Overdose Prevention Society

Summary of discussion:

- **More research is needed to better understand methamphetamine-induced psychosis**, but this is a difficult population to study due to the severity of illness or unwillingness to participate in research. There is also a lack of Canadian data and a lack of funding for research.
- **Research on methamphetamine use should integrate knowledge users**, including PWLLE, street clinicians, street psychiatrists, peer workers, etc., to ensure outcomes are relevant to those who will use them. Compared to other countries, research in Canada does a good job of integrating these communities, but more is needed.

“Canadian-funded services and studies are needed to meet the needs of people who use methamphetamine in Canada. Our systems and experiences are different from other countries and even across provinces.”

- **Harm reduction, including inhalation sites, are needed to save lives.** A high number of people who are dying are using smoking as a primary consumption method, and that includes people who concurrently use methamphetamine and opioids.

- **Harm reduction sites can provide essential health, wellness and peer support**, including opportunities for social connection, wrap-around/social services, education (e.g., on how to recognize/avoid methamphetamine-induced psychosis), and early intervention to prevent substance-use related harms and promote wellness. Individuals using these sites may display early signs of psychosis that could be recognized by harm reduction workers or peers, and many could benefit from access to support for primary care, housing, or mental health services. Peer workers at these sites can provide additional value and unique insights, for example, peer-led modifications to an inhalation site in Vancouver enabled it to stay open during pandemic closures, with knowledge of what services would retain the most clients.

“My substance use spirals when I’m by myself. A safe smoking site would have been more helpful for me than going into an institution. What ultimately helped me was a peer-recovery organization that was life-focused, where I could meet with people who had been through what I was going through.”

- **There is a high incidence of psychotic episodes among people who use methamphetamine**, including many young people who sometimes present with very severe symptoms. Diagnosis and treatment can be challenging. Emergency departments often become revolving doors where symptoms are managed, but many patients are discharged into precarious living situations where they are often also victims of violence, and eventually return.
- **Better integration of psychiatric and substance use health care is needed** to support individuals with methamphetamine-induced psychosis. Early and first episode psychosis clinics incorporate both mental health and substance use health care, and follow patients for consistent care. Engagement with PWLLE, as well as providing a user-friendly setting with peer support, is important.
- **Promoting health is more cost-effective than treating illness.** It is more costly to support long-term disability and repeat hospitalizations for individuals with substance use disorders than to support evidence-informed interventions that prioritize health and wellness. The costs of not intervening are extremely high, particularly for psychotic disorders, on which we spend billions annually in Canada. Supporting people quickly and adequately may avoid multiple hospitalizations, prevent handicaps and disabilities, and save lives and money.

Conclusion and Summary

This workshop featured seven projects, panel reflections and open discussion sessions with researchers, health care and substance use health care providers, harm reduction support workers and people with lived and living experience of substance use. Research findings were presented, and overarching themes emerged that could inform methamphetamine-related health care and policy decisions in Canada.

A high-level summary of overarching themes from the workshop follows below:

- **There has been a sharp rise in methamphetamine and related psychostimulant use in Canada.**
- **Polysubstance use is common.** Opioids and methamphetamines are frequently used together, with many individuals believing that methamphetamine will reduce their risk of an opioid overdose. Substances frequently used with methamphetamine include cannabis and other stimulants (e.g., cocaine).
- **The COVID-19 pandemic has impacted substance use patterns.** Individuals report using substances alone more often. Outdoor supervised consumption sites were able to remain open during the pandemic but were forced to operate at reduced capacity. The pandemic has also impacted the ability to do research.
- **Psychosis is common for individuals who use methamphetamine.** Early intervention is important to improve outcomes and prevent long-term disability including chronic conditions such as schizophrenia. Treatment guidelines are needed to determine how to best support these patients. Better integration of psychiatric and substance use care is needed.
- **There is very little Canadian research** on methamphetamine and related psychostimulant use. The research that does exist is often low quality and generally does not focus on realistic outcomes. Outcome measures are inconsistent, making it difficult to compare studies and draw conclusions. Research must integrate knowledge users (e.g., people with lived and living experience, street clinicians).
- **Psychosocial treatments for methamphetamine use disorder have the strongest support,** particularly contingency management and cognitive behavioural therapy. There is weak support for pharmacological (drug) treatments. Published evidence on treatment options is based on small sample sizes, short timeline single case studies, biased measures, and inconsistent measures and outcome definitions.
- **Access to treatments is an issue,** particularly for Indigenous and other remote communities. Psychosocial treatments are rarely made accessible to patients, despite strong support for their effectiveness.
- **Social determinants of health must be considered** when treating individuals with substance use disorders. Access to primary care physicians, housing and other social services are urgently needed.
- **Harm reduction is necessary and effective** to save lives and promote health and wellness among people who use substances. Supervised inhalation facilities are needed to meet the needs of people who smoke substances. Harm reduction sites can provide an opportunity to meet people where they are at – with early intervention to prevent harms such as psychosis – as well as connect people to peer support and other social services including housing and primary health care.
- **People with lived and living experience of substance use should be at the centre** of research and in the development of interventions to ensure that outcomes and treatments are relevant and meet their needs.

This funding opportunity was designed to address the relative lack of high-quality data on methamphetamine and related psychostimulant use in Canada. With a total investment of \$700,000, this funding supported research in diverse areas, including the effectiveness of treatment options, harm reduction strategies, sociocultural analysis of use, and epidemiology of methamphetamine use and associated disorders.

Thank you to all who participated in this knowledge exchange event.

The meeting book for this workshop is available to the public upon request. Requests can be directed to the CIHR Contact Centre:

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More information on CIHR's research in substance use can be found online at:

<https://cihr-irsc.gc.ca/e/50927.html>.

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