

An Evaluation of a Two-year Virtual Contingency Management Group

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Introduction

Cocaine and methamphetamine rank second and third in involvement with unintentional fatal drug overdoses in British Columbia, with 70% of fatal drug overdoses in 2022 involving stimulants^[1]. Exposure to illicitly produced stimulants predicts higher risk of adverse medical, psychiatric, and socioeconomic outcomes. The creation of this Victoria-based virtual group sought to explore whether virtual Contingency Management (CM) is an effective and acceptable treatment for persons who use stimulants.

The Impact of COVID-19

COVID-19 not only contributed to an increase in substance use overall, but also a reduction in the availability of substance use services, an increasingly toxic and contaminated drug supply, and more general population wide psychosocial stressors including job loss, economic hardship, and homelessness^[2]. Several existing CM groups were forced to discontinue or curtail services. Many patients with substance use disorders lost access to treatment, and subsequently experienced relapse, overdose, and a loss of hope^[3].

Virtual Care Access

Virtual care was identified as an area of opportunity, as it has previously been used effectively for substance use treatment, and more specifically for stimulant use treatment, and can lead to higher patient satisfaction, improved reach, and greater access^[4].

Contingency Management

Evidence-based treatment options for stimulant use disorder are limited, and the only treatment modality showing strong evidence for abstinence is contingency management^[5]. CM provides positive reinforcements in exchange for desired processes (e.g., attending a clinic appointment), behaviors (e.g., maintaining abstinence), and outcomes (e.g., negative urine drug screening). There is a considerable body of evidence looking at contingency management and treatment of stimulant use, yet there is no literature studying CM groups using synchronous videoconference technology.

Traditionally, CM groups are run in person, and involve a high number of touch points including the group meeting itself, drawing names and rewards, providing prizes, and completing urine drug screens. Traditional protocols for CM for

stimulant use rely on making rewards contingent on abstinence from substances as verified by objective measurements such as negative urine drug screen. This has been a challenge to implement in the virtual setting. Suggestions in the literature in adapting contingency management to a virtual model included using group teletherapy, electronic prize delivery, and pivoting to an attendance-based approach rather than an abstinence-based approach in providing rewards^[6]. Many of these suggestions were implemented into the Victoria-based virtual group.

Virtual CM Group: Methods and Results

Rewarding Recovery, a weekly Island Health-based virtual CM group, started in January 2021 using Zoom to address a lack of stimulant use disorder treatment during the COVID pandemic. Adults with stimulant use disorder were recruited through clinicians and paper flyers at a local addiction clinic. The group was conducted on a weekly basis and involved attendance-based draws (based on a contingency management textbook by Nancy Petry), electronic prize delivery, goal setting and CBT skills building. Attendance and cost data and 19 months of voluntary, anonymous post-group participant survey data was collected and analysed. Attendance data from 4 cohorts from January 2021 to November 2022 shows that group attendance has increased while gift card costs per group have decreased by almost 50%.

Cohort 1	Cohort 2	Cohort 3	Cohort 4
Jan'21 -Jul 8'21	Sept'21-Jun'22	Jul '22-Jul' 22	Sept -Dec 21' 22
30 groups	40 groups	4 groups	15 groups
Average 6 participants/group	Average 6 participants/group	Average 8 participants/group	Average 9 participants/group
Average \$93 per group	\$100 per group	\$48 per group	\$61 per group

Post-group surveys between April 2021 and November 2022 had a 40% response rate, with 80% of written comments including positive responses experience with the group. All surveys completed included a response to the statement “the group today met my needs” with an average respondent value of 86/100. 95% of the respondents indicated an intention to return to group the following week.

Post-Group Survey Results	Survey Comments
<ul style="list-style-type: none"> 178 post-group survey responses from 451 group participants 40% response rate 173/178 “the group met my needs today” 95% respondents indicated planned to attend next week 60% left written comments; 80% of those were positive 	<ul style="list-style-type: none"> “I am grateful to everyone involved in the process of setting this group up” “This group helps keep me accountable and sober. Thank you.” “I am so grateful for this group. It gives me a purpose to wake up Wednesdays. My world has turned upside down lately.”

Discussion

This initiative is the first known of its kind to use a synchronous, virtual group-based contingency management approach. Overall, participants praised the group for providing purpose, inclusivity, accountability, and a shared sense of community. They found the logistics of the draw and structure of the group to be effective, and the virtual nature of the group to be acceptable and convenient.

Challenges faced in the group included:

- Converting referrals into actual group attendance;
- Preventing relapses during group breaks;
- Reaching participants with lower socioeconomic status, more severe substance use, or limited technology access;
- Balancing the need for higher quality data collection with a commitment to maintaining low barriers to care (i.e., voluntary surveys with fewer questions); and,
- Limitations of attendance-based vs. abstinence-based contingency management.

Conclusion

Illicit drug morbidity and mortality in BC continues to remain at record setting levels, and stimulants are implicated in a large portion of the harm caused. The covid-19 pandemic not only led to increasing levels of illicit drug use and an increasingly toxic drug supply, but also a reduction in the availability of treatment services in the province. The contingency management pilot group in Island Health has demonstrated that virtual contingency management is feasible, cost-effective and generally met the needs of attendees within the continuum of care for stimulant use disorder.

References

1. British Columbia Coroners Service (2023). Illicit Drug Toxicity Type of Drug Data to December 31, 2022. <https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/statistical/illicit-drug-type.pdf>
2. Canadian Centre on Substance Use and Addiction. Impacts of the COVID-19 pandemic on substance use treatment capacity in Canada. 2020. www.ccsa.ca/sites/default/files/2020-12/CCSA-COVID-19-Impacts-Pandemic-Substance-Use-Treatment-Capacity-Canada-2020-en.pdf.
3. Edinoff, A. N., Kaufman, S. E., Chauncy, T. M., Erwin, A. P., Russo, K. M., Nelson, M. E., ... & Kaye, A. D. (2022). Addiction and COVID: Issues, Challenges, and New Telehealth Approaches. *Psychiatry International*, 3(2), 169-180.
4. Lin, L. A., Casteel, D., Shigekawa, E., Weyrich, M. S., Roby, D. H., & McMenamin, S. B. (2019). Telemedicine-delivered treatment interventions for substance use disorders: A systematic review. *Journal of substance abuse treatment*, 101, 38-49.
5. Ronsley, C., Nolan, S., Knight, R., Hayashi, K., Klimas, J., Walley, A., ... & Fairbairn, N. (2020). Treatment of stimulant use disorder: a systematic review of reviews. *PloS one*, 15(6), e0234809.
6. Zastepa, E., Sun, J. C., Clune, J., & Mathew, N. (2020). Adaptation of contingency management for stimulant use disorder during the COVID-19 pandemic. *Journal of Substance Abuse Treatment*, 118, 108102.

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