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Examining Barriers as Risk Factors for Relapse: A focus on the Canadian Treatment and Recovery System of Care

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ABSTRACT

Objectives: In 2016, the Canadian Centre on Substance Use and Addiction (CCSA) conducted the first survey of individuals in recovery from addiction in Canada. The findings revealed that many individuals in recovery lead meaningful lives, contributing to their families and society. However, participants also identified a number of barriers to starting and maintaining recovery. The current study examined the relationship between the barriers experienced and relapse during recovery.

Methods: Data from the 2016 Life in Recovery (LIR) from Addiction in Canada survey were analyzed using descriptive and logistic regression analyses. Participants comprised 855 individuals ($M_{age} = 47.3$ years), all of whom self-reported being in recovery from addiction.

Results: Logistic regressions revealed that upon starting recovery, long delays for treatment, odds ratio (OR)=1.77, 95% confidence interval (CI)=1.21–2.60, $P < 0.01$, and not having stable housing, OR=1.83, 95% CI=1.14–2.95, $P < 0.05$, were associated with increased risk of relapse. Moreover, upon examining barriers to maintaining recovery, a lack of supportive social networks, OR=2.10, 95% CI=1.26–3.48, $p < 0.01$, a lack of programs or supports, OR=1.75, 95% CI=1.03–2.98, $P < 0.05$, and the

costs of recovery services OR=1.73, 95% CI=1.02–2.91, $P < 0.05$ were associated with increased risk of relapse.

Conclusions: Targeted investments to address the treatment-related barriers that most strongly relate to relapse, could significantly improve the lives of individuals struggling with addiction and those beginning and maintaining their recovery journey.

Keywords: addiction, barriers, recovery, relapse, treatment

Objectifs: En 2016, le Centre canadien de lutte contre l'alcoolisme et les toxicomanies (CCLAT) a mené un premier sondage auprès des personnes en rétablissement à la suite d'une dépendance au Canada. Les résultats ont révélé que de nombreuses personnes en rétablissement mènent des vies significatives, contribuant ainsi à leur famille et à la société. Cependant, les participants ont également identifié un certain nombre d'obstacles au démarrage et au maintien du rétablissement. La présente étude a examiné la relation entre les obstacles rencontrés et la rechute pendant le rétablissement.

Méthodes: Les données de l'enquête Life in Recovery (LIR) de l'Enquête sur la toxicomanie au Canada de 2016 ont été analysées à l'aide d'analyses de régression descriptives et logistiques. Les participants comprenaient 855 individus (Moyenne d'âge=47,3 ans), qui ont tous déclaré être en rétablissement après une dépendance.

Résultats: Les régressions logistiques ont révélé qu'au début du rétablissement, de longs délais de traitement, chance de réussite (CR)=1,77, intervalle de confiance à 95% (IC)=1,21-2,60, $p < 0,01$, et n'ayant pas de logement stable, CR=1,83, IC 95%=1,14-2,95, $p < 0,05$, étaient associés à un risque accru de rechute. De plus, en examinant les obstacles au maintien du rétablissement, un manque de réseaux sociaux de soutien, CR=2.10, IC à 95%=1.26-3.48, $p < 0.01$, manque de programmes ou de soutien, CR=1.75, IC à 95%=1.03-2.98, $p < 0,05$, et les coûts des services de récupération CR=1,73, IC 95%=1,02-2,91, $p < 0,05$ étaient associés à un risque accru de rechute.

Conclusions: Des investissements ciblés visant à surmonter les obstacles liés au traitement les plus étroitement liés à la rechute pourraient améliorer considérablement la

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vie des personnes aux prises avec une dépendance et de celles qui amorcent et poursuivent leur chemin vers le rétablissement.

Mots-clés: Addiction, barriers, recuperation, rechute, traitement

INTRODUCTION

There is no one way to define recovery from addiction to alcohol and other drugs. The United States (US),¹ Australia,² and the United Kingdom (UK)³ have attempted to better understand the experiences and impacts of recovery by conducting Life in Recovery (LIR) surveys. However, in Canada, little evidence had been available regarding individuals' experiences of recovery from addiction to alcohol and other drugs. To fill this gap the Canadian Centre on Substance Use and Addiction (CCSA) together with organizational partners, including the National Recovery advisory Committee (NRAC) and the Recovery Expert Advisory Group (REAG), conducted the first survey of individuals in recovery from addiction in Canada in 2016. Results from the Canadian LIR survey provide a vast amount of information regarding the personal journeys and recovery pathways among participants (see full project report for details).⁴

The survey findings highlight many positive aspects of life in recovery such as a high quality of life, improvements in health and significant contributions to family and society. These findings are consistent with the view that recovery is more than simply stopping uncontrolled substance use, but rather is often defined as improvements in health, wellbeing and social participation or "living a productive life".⁵⁻⁷ In addition to examining the outcomes of recovery, findings from the Canadian survey support the view from the literature that recovery is a unique journey and there are many different legitimate pathways to and within recovery.⁶⁻⁸ In this regard, respondents in the Canadian survey reported using a wide variety of programs, of which, 12-step mutual support groups were the most frequently accessed programs. It might be important to consider that program use could reflect participants' needs, however, to some degree, they might also reveal availability and accessibility to certain programs in Canada. For example, 12-step programs are the only service in Canada that is almost universally available and accessible regardless of individual characteristics.

With some exceptions (eg, military, First Nations peoples living on reserve, and those in federal correctional institutions), treatment for substance use issues in Canada falls under Provincial and Territorial responsibility. Publicly funded services and supports range from community-based group counselling to intensive, long-term, residential programs. Primary care providers, such as doctors and nurse practitioners, also play a role

through services such as brief interventions and pharmacotherapies, including opioid substitution treatment. The availability of these programs varies greatly across population groups and geographic areas, with urban centers generally having a greater range and number of services available.⁹ There are also privately-operated treatment services in Canada. Some of these are partially supported by public funds, while others require private payment for all services. Costs vary according to the program and the majority of private services in Canada are unregulated.¹⁰

Unfortunately, there are few supports available to assist those attempting to navigate this complex system. Demand for services often exceeds supply, particularly for more specialized services, resulting in delays in access and/or gaps in treatment continuity.¹¹ Even services without wait lists may be inaccessible to some due to exclusions in admission criteria such as criminal justice involvement or concurrent mental health disorders; or for practical reasons such as lack of access to childcare for single mothers.¹¹ The problem is further compounded by the stigma surrounding addiction, which can also serve as a barrier to seeking help for addiction and starting the recovery journey.⁴ To gain a better understanding of the issues surrounding treatment and accessing recovery programs and services, the Canadian LIR survey examined the barriers to starting and maintaining recovery among individuals in recovery from addiction. It was uncertain to what degree issues such as delays in access and/or gaps in continuity in care would influence recovery journeys. Thus, the current manuscript focuses on the barriers reported by participants, examining which barriers are related to relapse during recovery. It was expected that certain barriers, such as a lack of social supportive networks, would be strongly related to relapse for both starting and maintaining recovery. However, it was also anticipated that some barriers would strongly relate to relapse for *starting* recovery, such as long delays for treatment, and others, such as the costs of recovery services would be strongly related to relapse for individuals *maintaining* recovery.

METHODS

Procedures

The Life in Recovery from Addiction in Canada survey was an online survey available in both English and French. To recruit participants, the survey link was sent to CCSA's stakeholders who were asked to share the link with their professional and personal networks of individuals in recovery. Additionally, the survey link was posted on the CCSA website, on 2 online communities sponsored by CCSA: the Treatment Space and Prevention Hub communities, which include professionals working in

Table 1: The Number of Relapses Back Into Active Addiction After Starting Recovery

	0	1	2-5	6-9	10+
All respondents	51.2% (n=438)	14.3% (n=123)	19.4% (n=166)	4.5% (n=39)	9.8% (n=84)
Males	52.3% (n=204)	12.6% (n=49)	18.7% (n=73)	4.6% (n=18)	11.8% (n=46)
Females	50.8% (n=228)	16.3% (n=73)	20.0% (n=90)	4.5% (n=20)	8.5% (n=38)

the fields of addiction treatment and prevention, and was distributed through CCSA's Twitter and LinkedIn pages. Data for this survey were collected between April 18, 2016, and June 1, 2016. Ethics approval was received from Institutional Review Board (IRB) Services, an independent research and ethics board. Finally, the LIR survey was funded by Health Canada's Substance Use and Addictions Program (SUAP).

In order to participate in the LIR survey, participants were required to be 18 years of age or older, to live in Canada, and to self-identify as being in recovery according to the broad definition provided, "For the purpose of this survey, being "in recovery" means that in the past you had an addiction to alcohol or other drugs, but now that addiction is no longer active."

Measures

The questions that comprised the Canadian LIR survey were based on the previous LIR surveys in the US,¹ Australia,² and the UK³ versions. The REAG, which included individuals with survey development and research expertise as well as lived experience, provided extensive methodological and content expertise in the development of the survey questions. Some of the survey questions were modified to reflect the Canadian context and new questions were added to examine barriers. A wide range, including 64 closed- and open-ended questions were included in the survey. Information collected included questions on background (demographic), health and quality of life, factors involved in recovery (including recovery definitions), recovery resources, programs and supports used, experiences during active addiction and recovery (including finances, legal issues, work and study, family life, and health) and substances used (While not the focus of the current manuscript, knowing participant substance use patterns might help better inform readers regarding the representativeness of current use patterns. In this regard, the top 5 substances used during active addiction included: alcohol (93.3%), tobacco/nicotine (81.3%), cannabis (61.5%), cocaine (55.2%), and hallucinogens (42.7%). For specific findings relating to any of these questions, please see the full technical report.⁴

Relapse. Participants were asked, "Have you ever relapsed back into active addiction after starting recovery?" (Yes/

No). In an open-ended question, participants were also asked, "About how many times did you relapse?"

Length of time since use of drug of choice. Participants were asked, "How long has it been since the last time you used your drug of choice?" and could respond by indicating this time in days, months or years. Based on each response a continuous variable was calculated reflecting years since last use of drug of choice.

Barriers to starting recovery. Participants were asked if they experienced any of the 15 listed barriers to starting recovery found in Table 2. Participants could select multiple barriers.

Barriers to maintaining recovery. Participants were asked if they experienced any of the 8 listed barriers to staying in recovery found in Table 3 and once again could select multiple barriers.

Statistical Analysis

Statistical analyses were performed using SPSS for Windows 24.0 (SPSS Science, Chicago, IL). A logistic regression analysis was conducted to examine whether demographic variables, age and gender, were significantly related to relapse. Following this, logistic regressions analyses were conducted examining the relationship between barriers to starting and maintaining recovery in relation to relapse. Logistic regression models examining relapse were then repeated to determine if models changed when the length of time since last use of drug of choice (used as a proxy for duration in recovery) was included. Statistical significance was determined at $P < 0.05$ (2-tailed).

RESULTS

Participants

Participants included 855 individuals with a mean age of 47.3 years ($SD=13.2$). All participants met the inclusion criteria which comprised being 18 years of age or older, living in Canada, and self-defining as being in recovery from addiction. There were slightly more females, 53% ($n=453$) than males 45.7% ($n=391$) and 1.3% ($n=11$) identified their gender as other. The majority of respondents self-identified as white (78.9%, $n=675$), while 9.8% ($n=84$) identified as Canadian, 8.4% as Indigenous ($n=72$), 2.7% Quebecois, French Canadian or

Table 2: Barriers to Starting Recovery

Barriers	Frequency (%)	OR	95% CI	P
Not being ready, not believing you had or not believing the problem was serious enough	54.2% (n=463)	1.34	0.98-1.84	0.07
Being worried about what people would think of you	49.7% (n=425)	0.86	0.62-1.17	ns
Not knowing where to go for help	35.8% (n=306)	0.96	0.68-1.36	ns
Lack of supportive social networks	30.4% (n=260)	1.08	0.76-1.54	ns
Long delays for treatment	25.0% (n=214)	1.77	1.21-2.60	0.003
Lack of professional help for mental health or emotional problems	24.1% (n=206)	1.48	0.98-2.24	0.06
Cost of recovery services	21.6% (n=206)	0.99	0.67-1.45	ns
Lack of programs or supports in your community	20.4% (n=174)	0.77	0.46-1.28	ns
Quality of services available in your community	19.9% (n=170)	1.11	0.68-1.82	ns
Not receiving the right treatment for your addiction	13.0% (n=111)	1.04	0.63-1.72	ns
Not having stable or adequate housing	12.6% (n=206)	1.83	1.14-2.95	0.02
Receiving the wrong diagnosis	10.8% (n=92)	1.49	0.83-2.64	ns
Receiving an incomplete diagnosis	10.4% (n=89)	0.94	0.52-1.69	ns
Lack of programs or supports that met your cultural needs	5.3% (n=45)	1.05	0.51-2.20	ns
Lack of programs or supports in your preferred language	1.1% (n=9)	1.45	0.25-8.31	ns

Acadian (n=23), 0.6% as mixed, unspecified (n=5), 0.5% as East Asian (Chinese, Japanese) (n=4), 0.4% as South Asian (East Indian, Pakistani, Sri Lankan) (n=3), 0.1% as Southeast Asian (Filipino, Malaysian) (n=1), and 1.4% as other (n=12) (Please note that some participants reported multiple ethnicities, which are reflected in frequencies reported.). A large number of respondents lived in British Columbia (45.7%, n=391), followed by Ontario (25.5%, n=218), Alberta (10.5%, n=90), Saskatchewan (8.9%, n=76), Manitoba (2.7%, n=23), Quebec (2.1%, n=18), New Brunswick (1.3%, n=11), Newfoundland and Labrador (1.1%, n=9), Nova Scotia (0.7%, n=6), Prince Edward Island (0.6%, n=5), Yukon (0.6%, n=5), and Northwest Territories (0.2%, n=2). The majority of participants, 78.9% (n=675) were employed and 62.4% (n=534) had completed college, university or a higher level of education. The length of time since participants last

used their drug of choice varied wildly ranging from 0 to 46 years, with a mean age of 10.7 years (SE=.37).

Relapse, Barriers to Starting and Maintaining Recovery

Upon examining relapses, half of respondents, 51.2% (n=438) reported never relapsing back into active addiction once beginning recovery. Of individuals who did report relapsing, the number of relapses also varied widely, as shown in Table 1.

The majority of participants reported experiencing 1 or more barriers to initiating recovery, 82.5% (n=705). As shown in Table 2, the most frequent barrier reported was not being ready or believing there was a problem or that the problem was serious enough, 54.9% (n=469). The stigma associated with addiction also served as a barrier

Table 3: Barriers to Maintaining Recovery

Barriers	Frequency (%)	OR	95% CI	P
Lack of professional help for mental health or emotional problems	16.7% (n=143)	1.32	0.85-2.07	ns
Being worried about what people would think of you	13.7% (n=117)	1.20	0.76-1.88	ns
Lack of supportive social networks	11.9% (n=102)	2.10	1.26-3.48	0.004
Lack of programs or supports for maintaining recovery	11.3% (n=97)	1.75	1.03-2.98	0.04
Cost of recovery services	10.3% (n=88)	1.73	1.02-2.91	0.04
Problems getting or maintaining stable or adequate housing	9.5% (n=81)	1.55	0.82-2.90	ns
Problems getting or maintaining employment	9.1% (n=78)	1.11	0.57-2.16	ns
Being prescribed an addictive medication	7.7% (n=66)	0.70	0.39-1.26	ns

for almost half of participants, as 49.7% ($n=425$) of participants reported being worried about how they would be viewed by others. Table 2 also reflects a number of barriers pertaining to accessing treatment and recovery services. For example, 25.0% of participants reported long delays for treatment, 24.1% reported a lack of professional help for mental health or emotional problems, 21.6% reported the costs of recovery services, 20.4% reported a lack of programs or supports in their community, while less participants reported the lack of programs or supports that met their cultural needs (5.3%) or were in their preferred language (1.1%).

Logistic analysis revealed that gender was not significantly related to relapse, $OR=1.02$, 95% $CI=0.77-1.34$, $P=0.90$; however, increasing age was associated with reduced odds of relapse, $OR=.98$, 95% $CI=0.97-1.00$, $P<0.01$. Therefore, for the remaining analyses, age was included in the regression models.

A logistic regression was conducted comprising each of the barriers to starting recovery (listed in Table 2), as well as age to determine whether these variables were associated with relapse. When all barriers were entered into a logistic regression, 2 barriers remained significant in the model. Specifically, long delays for treatment, $OR=1.77$, 95% $CI=1.21-2.60$, $P<0.01$ and not having stable housing, $OR=1.83$, 95% $CI=1.14-2.95$, $P<0.05$ were associated with increased odds of relapsing (Table 2). Moreover, a lack of professional help for mental health or emotional problems, $OR=1.48$, 95% $CI=0.98-2.24$, $P=0.06$, and not being ready or believing the problem was serious enough, $OR=1.34$, 95% $CI=0.98-1.84$, $P=0.07$ tended to be associated with increased odds of relapsing; however, these latter effects only approached significance. In this model age was no longer associated with relapse, $OR=0.99$, 95% $CI=0.98-1.00$, $P=0.23$ (In a separate model examining barriers to starting recovery in which length of time since last use of drug of choice was included, results remained the same, with long delays for treatment and not having stable housing significantly increasing odds of relapse.).

Compared to starting recovery, fewer participants reported barriers associated with maintaining recovery, 45.8% ($n=392$). As shown in Table 3, once more, participants reported experiencing barriers pertaining to accessing treatment and recovery services.

A logistic regression revealed that a lack of programs or supports for maintaining recovery, $OR=1.75$, 95% $CI=1.03-2.98$, $P<0.05$, and a lack of supportive social networks, $OR=2.10$, 95% $CI=1.26-3.48$, $P<0.01$, were associated with increased odds of relapse. Moreover, as shown in Table 3, costs of recovery services were also associated with increased odds of relapse, $OR=1.73$, 95% $CI=1.02-2.91$, $P<0.05$. Once more, in this model with

multiple barriers, age was no longer associated with relapse, $OR=0.99$, 95% $CI=0.98-1.00$, $P=0.10$ (In a separate model examining barriers to maintaining recovery in which length of time since last use of drug of choice was included, lack of programs or supports and costs of recovery services were no longer significant whereas a lack of supportive social networks remained significantly associated with increased odds of relapse.).

DISCUSSION

Just over half of participants did not experience relapse during their recovery journey, while the other half relapsed anywhere from once to more than 10 times. It is important to note that frequency of relapse in this study reflects individuals who identified as being in recovery, and are not necessarily reflective of a general relapse rate among all individuals who initiate recovery. To better understand individuals' experiences in recovery, including relapse, there is a need for long-term recovery outcome monitoring, particularly as addiction is a chronic disease and like other chronic diseases, relapse is part of the ongoing journey of wellbeing.¹² In this regard, best practice in services for substance use emphasize the importance of continuing care, ideally guided by a relapse prevention strategy, and incorporating the reality that relapse is often part of the recovery journey.¹³ The Homewood Research Institute is conducting a project to monitor outcomes at 1, 3, 6, and 12-months post-discharge among patients who received treatment in Addiction Medicine Services at Homewood Health Centre in Canada. These findings can help support best practices and inform addiction services,¹⁴ and might be particularly insightful in terms of the barriers to maintaining recovery.

The current findings reveal that the majority of participants reported experiencing barriers to starting recovery. Of those barriers, not having stable housing and long delays for treatment were associated with increased odds of relapsing in the logistic regression model. Stable housing can include addiction supportive housing, which includes housing linked with supports that are tailored to the individuals' needs; peer supervised Sober Living Houses; and, although less common in Canada, recovery residences such as Oxford Houses, which are independently operated by residents; and professionally-run treatment-oriented homes such as Therapeutic Communities. The goal of these recovery residences is to provide a safe, sober and healthy living environment to initiate and sustain recovery. Evidence for recovery homes has been promising, showing increasing abstinence, reducing the risk of relapse.^{15,16} Moreover longer stays in supportive housing were associated with better outcomes in relation to alcohol and drug use, employment and self-efficacy.^{17,18} In addition to recovery residences, an approach known as

the Housing First initiative provides immediate access to permanent housing along with community-based and clinical supports without requiring abstinence.¹⁹ Housing First projects have been conducted in a number of Canadian cities,^{20–23} with the goal to first provide housing and then support individuals in their pathways to recovery. Together, there are a wide range of housing supports that might be appropriate for individuals in recovery, and Canada's new 10-year national housing strategy should look to include a variety of housing options for specific populations.

Long delays for treatment were also associated with increased relapse. Unfortunately there is no systematic collection for wait times in community addiction and mental health services in Canada, making it difficult to speak to wait times.²⁴ It has been shown that wait lists for addiction treatment are a significant factor in drop-out rates prior to treatment^{25,26} and also serve as a major deterrent for individuals considering treatment.²⁷ When participants in the Canadian LIR survey were asked in an open-ended question about barriers to recovery, one individual simply stated, "Long wait for detox," while another said, "Wait list for 2 years for treatment... prescribed addictive medication."

Upon examining barriers to maintaining recovery, a lack of supportive social networks (eg, most people around you were using alcohol or other drugs), lack of programs or supports for maintaining recovery and the costs of recovery services were associated with increased risk of relapsing. Social supportive networks as well as recovery programs and supports available to an individual are an important component of recovery capital (ie, the amount of personal, social and community resources that can be drawn upon to initiate and sustain recovery).²⁸ The quantity of recovery capital for an individual can significantly impact long-term recovery outcomes,²⁹ and is increasingly being recognized as critical to successful recovery.⁵ The current finding, in which a lack of supportive social networks was associated with increased risk for relapse appears consistent with the recovery capital perspective, however, it was surprising that supportive social networks did not strongly relate to relapse upon starting recovery.

A lack of programs and supports for maintaining recovery is evident in some communities across Canada, in which residents have to travel outside the community, and sometimes great distances (eg, remote Northern communities). Mental health and addiction strategies released in Nova Scotia, Prince Edward Island, and British Columbia in the past 5 years, as well as updates to the Ontario strategy released in 2011, have identified the need for improved service availability, particularly for underserved populations such as youth and those with complex needs such as concurrent substance use and mental

health conditions.^{30–33} Beyond specific population-related gaps, the lack of programs and supports for *maintaining* recovery also highlights the need for Canada to shift from a crisis-oriented system, to a Recovery-Oriented System of Care (ROSC). A ROSC recognizes that recovery requires chronic care management including longer-term outpatient care and recovery services and supports. In fact, following 2 years of remission, it can take individuals an additional 4 to 5 years before their risk for relapse is similar to the general population.³⁴ The current survey did not ask specific questions relating to a ROSC, however, in a separate project, consultations were conducted with service providers, practitioners and researchers in Canada, and across all consultations feedback reflected that the current addiction system lacks a ROSC.³⁵

Survey participants also addressed the cost of accessing private services as a barrier to recovery, and a factor associated with increased risk of relapse. For example, one participant stated, "Finding treatment during my youth when I needed it the most was next to impossible and my family couldn't afford a private treatment centre," while another individual said there were, "No inexpensive or subsidized treatment centers". These findings reflect the broader system-level barriers to accessing treatment such as lengthy wait times and not knowing where to go. Recent provincial mental health and addiction strategies have recognized the difficulty of navigating public service systems that lack internal coordination such as primary care, addictions, justice, and mental health.^{30,31,33}

Lastly, barriers for starting versus maintaining recovery were differentially related to reported relapse. For example, stable housing was associated with relapse upon starting recovery, but not while maintaining recovery. It seems that the requirements and needs of individuals starting recovery might shift, resulting in new or different priorities and needs to maintain recovery. In line with this suggestion, it has been found that different domains of recovery capital are more salient at different recovery stages.³⁶ Moreover, individuals who were abstinent for over 3 years rated housing and living environment as a lower priority than those who were abstinent for 6 to 18 months.³⁷ Additionally, some priorities such as employment remain a priority across many stages of abstinence.³⁷ In this regard, fewer barriers to maintaining recovery were significant when the length of time since participants' last used their drug of choice was included, suggesting that barriers might change with duration of time in recovery. That said, the current study did not follow participants overtime, therefore, long-term recovery monitoring would be necessary to obtain an accurate understanding of how needs change throughout the recovery journey.

Limitations

There were a number of limitations in the current study. There appeared to be a geographic sampling bias, in which certain provinces such as British Columbia and Saskatchewan were overrepresented, while other provinces, such as Ontario and Quebec, were underrepresented. This is likely due, in part, to the non-random sample obtained through a snowball sampling technique. A random sample would have been preferable; however, this would require a sampling frame comprising all individuals in recovery in Canada, which does not exist. Therefore, the current sample is not representative of Canada, but instead reflects those who chose to participate. Furthermore, due to the snowball sampling technique, it was not possible to determine a response rate. Additionally, the survey was only available online, which might have influenced participation in the study. For instance, the current sample was highly educated and employed and was largely White. Moreover, it is important to be cautious of self-reporting bias, as with any self-report studies, it is possible that respondents' current mood state influenced responses to the LIR questionnaire. Specifically, in the current manuscript, participants simply had to self-identify as being in recovery, such that they used to have an addiction to alcohol and/or other drugs and it is no longer active. Therefore, respondents can vary widely in terms of how they define and interpret recovery and might vary in a number of other factors pertaining to their recovery. Although we attempted to account for some of this variability by including length of time since last use of drug of choice as a proxy for duration in

recovery, this is only 1 factor of many that could vary among participants. Relapse was also self-reported; therefore, these results are subject to self-reporting bias, and no standard definition of relapse was provided, which might have allowed for various interpretations as to what comprises a "relapse" as well as the added survey qualifier "to active addiction". Participants were asked to provide the approximate number of times they had relapsed and therefore these data should be considered estimates and not exact values. It is also important to note that many of the barriers discussed in the current study relate to problems initiating formal treatment, and therefore might not reflect those individuals in natural recovery who did not access formal services or supports.

CONCLUSIONS

Individuals living in recovery from addiction in Canada report a good quality of life and lead meaningful lives contributing to their families and to society. However, the majority of individuals in recovery also report barriers during their recovery process. By highlighting these achievements, and by identifying barriers, the results of the LIR survey together with long-term recovery outcome monitoring studies, can be used to support and guide improvements to services and supports for addiction in Canada. Targeted investments to address the treatment-related barriers that most strongly relate to relapse, could significantly improve the lives of individuals struggling with addiction and both beginning and sustaining their recovery journey.

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