Project Engage: Interest and Uptake of Contingency Management in Canadian Addiction Treatment Programs

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EXECUTIVE SUMMARY

Project Engage is a Prairie Node project of the Canadian Research Initiative in Substance Misuse (CRISM). CRISM is a national network of researchers, service providers, policymakers and people with lived experience. CRISM's objective is to translate evidence-based interventions for substance misuse into clinical practice, community-based prevention, harm-reduction, and health system changes. Project Engage aimed to adapt contingency management (CM) to the Canadian treatment context to enable widespread adoption with high fidelity. The project's three phases provide the basis for recommendations on CM implementation within existing addiction programs. Phase I explored treatment program personnel's willingness and ability to adapt CM into their programs. Phase II involved open-label prospective trials of adapted CM protocols with new program admissions. Lastly, Phase III surveyed frontline workers in Canadian treatment programs regarding their experience with and attitudes towards CM.

Phase I

Phase I aimed to understand how treatment providers could adapt techniques and principles for implementing CM into existing programming. Project Engage was announced during the first annual CRISM - Prairie Node meeting in 2016. Several managerial staff from 6 treatment programs expressed interest in participating, and ultimately, five agencies from Alberta and one from Saskatchewan participated in Phase I. Informal meetings with program personnel involved CM psychoeducation, a quantitative survey, and a qualitative interview.

Quantitative survey. Results indicated that staff were mostly neutral regarding their readiness to change, attitudes towards evidence-based practices (EBPs), and CM beliefs.

In comparison to past research, the current sample strongly agreed:

- that EBPs are appealing, with positive statements about CM; that EBPs would be adopted if required; that program needs are motivations for change; that their program had adequate staffing resources; that staff had a strong understanding of their program's mission; that they were open to using EBPs; and that the desire for growth was a staff attribute of theirs.

In comparison to past research, the current sample also strongly disagreed:

- that EBPs are clinically ineffective and inferior to clinical experience; that training-related barriers impede CM's use; and that their organizational climate is one of stress.

Qualitative interview. The themes that emerged for the planning stages of CM implementation included the best outcomes to focus on and which behaviours to target, implementation barriers, and strategies for rewards and incentive models. For engagement, the themes of staff's views on CM and their effects on implementation, the training needed, communication with opinion leaders, and the most suitable champions for CM implementation emerged. For the execution stage, a single theme of the resources required emerged. Lastly, for the reflection and evaluation stage, staff spoke of their enthusiasm for research involvement as well as data reporting and its influence on their programming.

Conclusions

In conclusion, these results suggest that the 5 participating programs had a relatively positive climate for CM implementation. Specifically, the current sample was more open to change, EBPs, and CM than previous research samples. The interview results suggest that program staff would put a high emphasis on the quality of the implementation plan, execution, and client engagement. Further, it is suggested that treatment providers would put forth a rigorous effort to ensure fidelity in order to evaluate and promote the adoption of EBPs, like CM, across the prairie provinces.

Phase II

Phase II involved uncontrolled prospective trials of adapted protocols with new admissions at four treatment programs. Together, the program and research staff identified program components where increased client engagement might improve client outcomes. The researchers and program staff designed an incentive model individualized for each program. Counsellors assessed client behaviour weekly, rewarding successful clients with a chance to win prizes. The CM intervention's effectiveness was evaluated by comparing past client engagement data and client engagement during the CM implementation. This phase aimed to assess CM's effectiveness, gain implementation process insights, provide recommendations, and better understand the client experience.

Fresh Start Recovery Centre. Fresh Start is a twelve to sixteen-week residential treatment program that employs the 12 Step abstinence model of recovery. The counsellor assessed and verified client goal step completion weekly. Counsellors incentivized completion using a combination of Petry's 'fishbowl' method and the voucher method. In the first pilot, clients were asked to complete one creative arts goal step per week. Results showed that step completion was 42% higher for the CM group than the control. Following this success, the second pilot asked clients to complete six steps weekly from 11 goal areas and found that step completion was 38% higher for the CM group than the control. The third pilot examined whether these results were, in fact, due to the incentives by assessing but not incentivizing step completion for the 11 goal areas. Results indicated that the third pilot group's step completion rates were higher than the incentivized second pilot CM group, though this was not significant.

Aventa Centre of Excellence for Women with Addictions. Aventa is an inpatient treatment centre offering trauma-informed, gender-specific, concurrent capable treatment services for women with addictions. Counsellors incentivized attendance at Aventa's Continuing Care Group (CCG) using the traditional fishbowl and onsite prize distribution model. The first pilot study results indicated that attendance rates were 15% higher for the CM group than the control group.

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Alberta Health Services (AHS) – Adult Addictions Services. Calgary's Adult Addiction Services is an AHS program providing non-medical outpatient treatment to those experiencing addiction. Counsellors incentivized attendance at the TEE Time group using the traditional fishbowl and onsite prize distribution model. The first pilot revealed that attendance rates were 10% lower for the CM group than the control group. The second pilot protocol added a $5 gift card (i.e., primer) for clients' first attended group. The second pilot CM group's attendance did not differ from the control group; however, the second pilot's attendance was 10% higher than the first pilot.

AHS – Adolescent Program. The adolescent program is an AHS program located at Calgary's Foothills Medical Centre which provides psychiatric and therapeutic interventions for adolescents diagnosed with substance use disorder and concurrent mental health concerns. Although this report will discuss the preliminary findings from this site, a more detailed account of the trials procedure and results will be provided upon completion. Utilizing a randomized controlled trial (RCT) design, 62 adolescents were randomized to receive either CM combined with treatment as usual (CM + TAU) or TAU. Those in the CM + TAU were also asked to complete weekly immediate-read urine drug screen (UDS) and to verbally disclose any substance use in the previous week. Over the course of 12 weeks clients in the CM + TAU group were eligible to earn escalating gift cards and prize-based draws for continued negative UDS submissions. Results revealed that receiving CM during usual outpatient care for concurrent disorder treatment did not significantly lead to increased treatment attendance over the study duration nor did it result in a significant increase or decrease in abstinence rates and substance-using days, respectively.

Conclusions

The four programs differed with respect to the degree CM's effectiveness was supported. Fresh Start's first two pilot studies support CM's efficacy in increasing goal completion, with rates exceeding those of past research. However, the third pilot results suggest that this increase was independent of the incentives offered and may be better explained by the increased goal completion monitoring and devoted review time. In any case, these results should be considered in light of the fact that the study was an uncontrolled open trial, warranting further investigation. Aventa's pilot results suggest that CM incentivized clients to attend more of their CCGs. However, the agency ultimately decided not to continue with CM due to incentive and staff costs. The low rates of reinforcement evidenced in AHS' first pilot resulted in a second pilot that included a 'primer.' Unfortunately, this protocol adaptation did not increase attendance, suggesting that clients may require a larger primer and/or an alternative delivery schedule. Lastly, we speculated that the preliminary results of the RCT at the AHS Adolescent Program were due to study protocol deviations (i.e., low-cost incentive protocol, reinforcement schedule, parental involvement, etc.) and low statistical power. Taken together, the results from the four programs provide helpful insight into the implementation of CM in existing treatment programs.

Comparing Staff and Clients' Beliefs about CM

Although this project assessed clinician attitudes and beliefs about CM, client views and experiences remain unclear. Thus, a secondary aim of Phase II was to compare staff and client beliefs about CM to gain insight into their experience, potentially improving its application.

No differences emerged between staff and client level of agreement for positive CM statements. However, clients did disagree significantly more than staff about general barriers of CM. Specifically, clients more strongly disagreed that they had worries about what would happen once contingencies were withdrawn, that they viewed CM as patronizing, that CM caused arguments among clients, and that earned items were sold or traded for drugs.

The results also showed that 67% of clients found CM very to extremely helpful and 85% were very to extremely satisfied with the incentives. Lastly, 74% reported being very to extremely confident that they would continue to engage in the targeted behaviour following exposure to CM and withdrawal of the incentives.

For the open-ended questions, clients reported treatment engagement (e.g., group comradery and progress) and the incentives (e.g., helped buy needed items and prize options) as the best things about CM. For the worst thing about CM, clients noted the CM protocol (e.g., prize/affirmation slip ratio and time-consuming protocol aspects), other clients (e.g., adverse reactions and needing prizes for motivation), and the incentives (e.g., disappointing prize selection). Clients commented on how they thought CM should be continued in their current program and implemented in other programs. Their suggestions on improving the CM protocol focused on refining the prize selection (e.g., need for aftercare items, gender-neutral prizes, and consideration for dietary restrictions and allergies).

Conclusions

Overall, these results provided helpful insights into the perspectives of clients exposed to CM. Clients appeared to have had a positive experience, finding CM very helpful. Moreover, general implementation barriers do not appear to be viewed very negatively by clients. Research should further investigate clients' experiences with CM to improve its application and inform treatment providers who may hold negative beliefs concerning CM's utility.

Implementation Observations and Suggestions

The researchers and counsellors made several critical observations throughout implementation. This report sought to provide recommendations to address barriers and limitations identified in these pilot studies.

Target behaviour. Observations for goal completion as a target included client struggles to set specific, attainable, and pertinent goals, as well as the importance of establishing effective

verification methods. Increased attendance and its effect on counsellor time and the administrative workload were highlighted as a significant barrier. Therefore, this report provides recommendations to reduce administrative time and workload.

Target population. CM's effectiveness differed between the three programs. The type of program (i.e., residential treatment vs. aftercare group vs. harm-reduction group) and clients' relative stages of change were posited explanations for the observed differences in CM's effectiveness. This reasoning contributed to protocol changes in the TEE Time's second pilot. Gender-related protocol differences were also observed. For instance, the use of positive affirmations for the women's CCG was well received. The need for gender-neutral incentives and monitoring of incentive stock ratios related to gender were also observed.

Choice of Incentive. The voucher and prize draw combination was very successful. This model, however, required methodical purchasing guidelines. The onsite prize distribution model emphasized the importance of polling client incentive preferences multiple times as well as storage space and mobility needs (i.e., prize cabinet and group meeting location and ease of moving incentives). Other observations included purchasing time, the importance of maintaining clear records, and consultation in determining prohibited incentives.

Incentive magnitude. The TEE Time's first pilot results suggested that this group required a greater incentive magnitude. This observation stresses the importance of outcome monitoring and procedural adjustments. The inclusion of a primer emphasized the significance of clear and concise record-keeping and supply monitoring. Ultimately, the second pilot results suggest that clients required a larger primer magnitude and a different reinforcement schedule.

Frequency of incentive rewards. Since all programs utilized the prize draw method, the incentive frequency was variable. One interesting observation for this principle was the success of Fresh Start's reformed assessment schedule and the possibility that the increased assessment frequency may have accounted for the increased goal completion. Disruptions and schedule conflicts due to statutory holidays and unforeseen events like illness were also observed.

Timing of incentives. The onsite prize distribution model emphasized the importance of receiving incentives immediately following the desired behavioural presentation. Lack of incentive immediacy was a limitation of the voucher + prize draw model. Although this lack of immediacy did not impede the intervention's effectiveness, the inclusion of explicit incentive order and delivery dates, as well as incentive certificates, are recommended.

Duration of intervention. The participating programs' treatment timelines and the research project's requirement of an adequate sample size determined the intervention's duration. Nonetheless, clients at programs incentivizing attendance were permitted to continue attending

beyond the research project timeline, giving clients the opportunity to earn incentives beyond the expected timeline.

Suggestions for managing time and workload. Increased administration time and workload was a significant barrier. Recommendations to decrease purchasing time included purchasing small prizes from stores with fixed prices, utilizing gift cards, and using money.
For administration and draw protocol time decreases, it is recommended that:

- client records be stored in an electronic database, new clients be provided with a brief protocol description, recording redundancies be removed, a protocol routine be established, prize cabinet selection is limited for space-consuming items (e.g., one scented body wash displayed though three scents are available), and gift cards be used.

Alternatively, the name-in-the-hat method may be used, which may involve less administration time; however, participating staff expressed reservations with this method.

Phase III

Frontline staff attitudes and beliefs are often cited as barriers to adopting and implementing evidence-based treatments such as CM. Clarifying these attitudes and beliefs is essential to reducing implementation barriers that may impact an intervention's efficacy. Therefore, the third phase of Project Engage examined how attitudes toward EBPs influence beliefs concerning CM

in Canadian addiction treatment providers. Although this report will discuss the overall findings of this phase, a more detailed account of the procedure and results is provided in the journal article entitled '*Attitudes Toward Evidence-Based Practices and Their Influence on Beliefs about Contingency Management: A Survey of Addiction Treatment Providers Across Canada'* by Megan Cowie and David Hodgins.

Between March 2019 and March 2020, managers at addiction treatment programs (ATPs) across Canada were contacted and asked to distribute a survey to interested providers in their program(s). The providers completed a screening and demographics questionnaire and questionnaires on EBPs, CM, and therapeutic orientation. Multi-level modelling (MLM) explained the relationship between attitudes toward EBPs and beliefs about CM.

Results

Two hundred thirty-seven providers from 90 programs across ten Canadian provinces participated. Results concerning CM revealed that a majority of providers were not familiar with CM, reported largely neutral attitudes towards CM, and endorsed a desire for additional training in CM.

MLM results. Providers who believed that clinical experience was more important than EBPs endorsed more general barriers toward CM implementation and fewer positive CM beliefs. Providers with more openness and greater overall positive attitudes towards adopting EBPs were more likely to endorse positive CM beliefs. Overall positive attitudes toward EBPs were also

associated with fewer general barriers and more positive beliefs about CM. Greater endorsement of 12-step therapeutic orientation was associated with fewer training-related barriers toward CM.

Conclusions

Our findings provide evidence to support the consideration of provider-level characteristics in the implementation of EBPs in Canadian settings. Further, our results highlight the importance of integrating psychoeducation and training into implementation efforts to support the success of CM interventions in Canadian clinical settings.

BACKGROUND

Background

Project Engage is a project of the Canadian Research Initiative in Substance Misuse (CRISM), which is a national network of researchers, service providers, policymakers, and people with lived experience (PWLE). CRISM's overall objective is to translate evidence-based interventions for substance misuse into clinical practice, community-based prevention, harm-reduction, and health system changes.

Rationale

Researchers and service providers recognize that drop-out is perhaps the most common outcome of specialty addiction treatment – regardless of type of intervention offered or service context (Cacciola, Alterman, McLellan, Lin, & Lynch, 2007; Milward, Lynskey, & Strang, 2014). The most innovative evidence-based pharmacotherapies or psychosocial treatment interventions stand little chance of reducing the individual and population burden of substance misuse (SM) unless new approaches to address client engagement and retention in treatment are developed. Interventions targeting motivational processes are promising, and important strategies include implementing protocols that characterize the client case mix in relation to initial treatment motivations (Urbanoski & Wild, 2012; Wild, Wolfe, Wang, & Ohinmaa, 2014, Wild, Yuan, Rush, & Urbanoski, 2016) and incorporating motivational enhancement and contingency management (CM) interventions into treatment programs to increase retention and client engagement (Ledgerwood & Petry, 2006). Focus on motivation is appropriate in light of consistent evidence that treatment motivation predicts initial client engagement in SM treatment (Adamson, Sellman, & Frampton, 2009; Simpson, 2004) and that client retention, in turn, is a robust predictor of positive post-treatment outcomes (Hser, Evans, Huang, & Anglin, 2004; Zhang, Harmon, Werkner, & McCormick, 2004). Evidence for the efficacy of using motivational interviewing (MI) interventions and CM protocols for increasing participation and quality of client outcomes is also well established (Dutra et al., 2008; Lundahl & Burke, 2009). MI interventions have been widely disseminated, in part because individual practitioners can integrate the techniques into routine clinical activities. In contrast, CM has been less widely adopted because it requires structural program changes and considerable resources. It also requires broadening of treatment models to acknowledge the impact of external reinforcers in addition to the intrinsic motivation that clients bring to treatment, a shift that some treatment personnel, in some situations, resist (Petry, 2010). The potential benefit of CM interventions for promoting client retention in treatment is unrealized and only sporadic attempts have been made to adapt this intervention to the Canadian treatment context. The aim of this project is to adapt this evidence-based intervention to the Canadian treatment context to enable more widespread adoption with high levels of fidelity.

Three Project Phases

Three project phases were conducted. First, five sites were chosen from across the Prairie region from treatment agencies or programs that indicated an interest in the concept. Attempts were made to address diversity in special populations (e.g., women, youth) and treatment focus (e.g., inpatient treatment programs, continuing care groups, harm-reduction groups, and outpatient counselling) in selecting sites. In Phase I, CRISM staff worked with program personnel from each site to explore how CM techniques and principles could be adapted for implementation into existing programming. In Phase II, we conducted open-label prospective trials of adapted CM protocols with new program admissions. The goals were to assess CM effectiveness and to gain insights into the implementation process. Phase III consisted of a survey of frontline workers in Canadian treatment programs around knowledge about CM, experience using CM, positive and negative attitudes, and perceived barriers to CM implementation. Together, the results of the three phases provide the basis for recommendations on the implementation of CM within existing Canadian addiction programs.

Literature Review

Scientist-Practitioner Gap

Within the addiction literature and, more broadly, psychology, there is a strong recognition of the importance of using evidence-based practices (EBPs) to inform clinical activities. EBPs are those that use empirically-based research evidence to guide decision-making processes within the clinical sphere (Dozois et al., 2014; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). The use of EBPs ensures greater benefit to the client by enhancing the quality of care and mitigating potential harms due to improper provision of services (Dozois et al., 2014; Sackett et al., 1996). Despite their importance, the use of EBPs is often neglected within clinical settings. A frequently cited reason for the limited use of EBPs is negative attitudes toward these practices (Pagoto et al., 2007). Much of the impetus toward using EBPs has emerged in part from recognizing a scientist-practitioner gap (Kazdin, 2008). The scientist-practitioner gap describes the disconnect between practices found to be effective in research and those used in clinical settings (Institute of Medicine, 1998). The scientist-practitioner gap is also present within addiction literature and practice, resulting in a prominent movement toward identifying and using EBPs to treat addictions. This movement is evidenced by the inclusion of EBPs within research and treatment mandates of numerous influential organizational bodies such as the Canadian Centre on Substance Use and Addiction (Canadian Centre on Substance Use and Addiction (CCSA), 2016; McQuaid, Di Gioacchino, & National Treatment Indicators Working

Group, 2017) and the Substance Abuse and Mental Health Services Administration (Substance Abuse and Mental Health Services Administration (SAMHSA), 2016, 2018). Further, this push toward integrating EBPs into the treatment of addictive disorders informed the national US network of clinical trials (National Institute on Drug Abuse (NIDA), 2015) and CRISM's national Canadian network aiming to translate the best scientific evidence into clinical practice and policy change.

Contingency Management

Within the addiction literature, one efficacious yet often underused EBP is CM, which has a theoretical basis that often engenders negative beliefs about its use, limiting its implementation within clinical practice (Petry, 2012). CM is an intervention involving the provision of reinforcers to encourage positive behavioural change (Petry, 2012). This treatment approach is best conceptualized as a form of operant conditioning whereby the engagement in a desired behaviour is met with rewards intended to increase the occurrence of that behaviour (Higgins & Petry, 1999; Stitzer & Petry, 2006). The behaviours targeted in the treatment of substance use disorders are often related to client substance use but may also include behaviours like medication adherence and treatment attendance (Higgins & Petry, 1999). The rewards, or reinforcers, can include money, clinic privileges (e.g., weekend passes in residential treatment), vouchers that can be traded for merchandise (e.g., clothing) or access to amenities (e.g., movie tickets), and/or a range of small-to-large sized prizes drawn at random (e.g., bus tickets, PlayStation; Petry, 2012).

Research Evidence on Contingency Management

There is considerable research evidence demonstrating the effectiveness of CM in the treatment of addictive disorders. Compared to standard care, CM demonstrates greater effectiveness in encouraging abstinence from alcohol (Petry, Martin, Cooney, & Kranzler, 2000), methamphetamines (Petry et al., 2005; Roll et al., 2006), cocaine (Higgins et al., 1994; Petry & Martin, 2002; Petry et al., 2005), opioids (Petry & Carroll, 2013; Petry & Martin, 2002), cannabis (Kadden, Litt, Kabela-Cormier, & Petry, 2007), and nicotine (Alessi, Badger, & Higgins, 2004; Morean et al., 2015). These positive findings are not limited to a single demographic group (Petry, 2012) and the efficacy of CM has been demonstrated amongst adults (Higgins et al., 1994; Petry & Carroll, 2013), adolescents (Cavallo et al., 2007; Krishnan-Sarin et al., 2006), dual-diagnosis populations (Sigmon & Higgins, 2006), and pregnant women (Higgins et al., 2010). Finally, the use of CM has also resulted in improvements in both treatment adherence (Higgins et al., 1994; Petry et al., 2005) and retention (Petry & Carroll, 2013; Petry et al., 2005) amongst different populations of individuals with substance use problems.

Attitudes and Beliefs towards Contingency Management

Despite the current body of literature on CM research, the use of CM in clinical practice is limited (Petry, 2012). In fact, CM is often cited as among the least used interventions for the treatment of substance use disorders, with clinicians reporting that they use CM anywhere between 11-25% of the time in their practice (McGovern, Fox, Xie, & Drake, 2004). A frequently cited reason for the limited use of EBPs in clinical settings are attitudes toward these EBPs. Like EBPs, the use of CM as a treatment for addictive disorders is accompanied by a host of beliefs that impede its use (Kirby, Benishek, Dugosh, & Kerwin, 2006; Petry, 2012; Rash et al., 2012). Research from the United States (US) has illuminated many beliefs that are thought to hinder the adoption of CM in clinical practice (McGovern et al., 2004). Some of the most commonly reported beliefs include negative perceptions about its cost (Kirby et al., 2006; Rash et al., 2012) and the belief that the philosophical underpinnings of CM resemble bribery (Kirby et al., 2006; Rash et al., 2012). Further, beliefs about training-related barriers such as the lack of basic knowledge and/or training required to implement CM have been found to act as barriers to CM's uptake and use (Rash et al., 2012; Willenbring et al., 2004).

Research from the US has shown that attitudes toward EBPs impact beliefs about CM. Treatment providers who hold more positive beliefs about EBPs tend to believe CM is a more admissible and efficacious intervention to use within addiction treatment programs (Bride, Kintzle, Abraham, & Roman, 2012). Hartzler, Donovan, and colleagues (2012) found that staff employed within addiction treatment programs who had more openness to incorporating EBPs into their clinical practice held more positive attitudes toward adopting CM into their treatment setting. Finally, adolescent addiction therapists in the state of South Carolina reported that they were more likely to use CM in their clinical practice if it was mandated by their organization (Henggeler et al., 2008). Similar to the EBP literature, specific provider characteristics have been shown to influence attitudes toward CM. Compared to those with lower educational attainment, providers with higher educational attainment demonstrate more positive beliefs about CM (Kirby et al., 2006) and its potential adoption (Hartzler, Donovan, et al., 2012). Therapeutic orientation and recovery status have also shown to be predictive of attitudes toward CM. Providers who ascribe to a behavioural (Henggeler et al., 2008) or cognitive-behavioural (CB) (McGovern et al., 2004) approach to treatment endorse a greater likelihood of use and greater actual use of CM in their clinical practice, while those who endorse a 12-step approach to treatment often report less use of CM (McGovern et al., 2004). In addition, compared to those who endorse a 12-step approach, those who endorse a CB approach report fewer barriers to implementing CM (Rash et al., 2012). The literature on the effect of recovery status on CM has been mixed. While some research has found that recovering treatment providers are less likely to use CM (Bride et al., 2012), others have found

that recovery status was associated with more positive attitudes towards CM (Bride, Abraham, & Roman, 2010; Kirby et al., 2006).

The CFIR Model and Implementation

The literature suggests that the characteristics of individuals who directly administer an intervention play an integral role in the uptake of that intervention within clinical practice. Within addiction treatment programs, individuals administering interventions include those on the frontlines of treatment - the addiction treatment providers. Thus, to ensure effective implementation, we must first understand the characteristics of the providers who would be practicing it. The Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009) is a pre-implementation model used to identify relevant factors for implementation prior to the execution of an intervention. The model includes considering the intervention's characteristics, the inner and outer setting in which the intervention would occur, the implementation process, and the characteristics of the individuals who comprise the organization in which the implementation was intended (Damschroder et al., 2009). The characteristics of individuals domain describes the individual-level factors, such as attitudes and beliefs, which are thought to act as barriers to an intervention's effective uptake. Damschroder and colleagues (2009) describe the importance of this domain and note that if change is to occur within an organization, it must first begin with the individuals who make up that organization. Thus, understanding the attitudes and beliefs of addiction treatment providers will allow for the development of educational efforts directed at the individual level where interventions are employed, targeting erroneous cognitions that may bar effective implementation (Kirby et al., 2006). Therefore, it seems an appropriate first step toward implementation to understand and address individual-level attitudes that affect the use of EBPs, such as CM.

Summary of Previous Research and Limitations

Previous research has shown that a scientist-practitioner gap exists between addiction literature and clinical practice. Specifically, despite the noted efficacy of CM for the treatment of addictive disorders, it is an infrequently used treatment within clinical settings (Petry, 2012). Various attitudinal barriers exist which have been shown to impede the use of EBPs more generally (e.g., see Beidas et al., 2012; Becker, Smith, & Jensen-Doss, 2013), as well the specific use of CM (e.g., see Rash et al., 2012). However, previous research assessing attitudes toward EBPs, with the exception of one study (Henggeler et al., 2008), has inquired about attitudes as existing along a single dimension. To fully understand the barriers to implementation, attitudes should be assessed along differing dimensions (i.e., openness, appeal, divergence, requirements) (Aarons, 2004). In doing so, we may better target underlying erroneous beliefs about CM.

Much of this research has been conducted in the US where the healthcare system is structured much differently than in Canada. To most effectively implement CM in Canadian addiction treatment programs, we must understand the attitudinal barriers and idiographic characteristics of Canadian addiction treatment providers. Furthermore, to assess the process construct of the CFIR, it is important to implement CM in existing programs. This would provide a thorough understanding of the difficulties and provide recommendations to improve implementation in Canada.

Project Purpose and Phases

The goal of Project Engage was to implement and evaluate CM, an evidence-based addiction treatment, in Canadian addiction programs. The first phase introduced CM to the frontline staff of several addiction treatment programs to explore barriers to implementation and possibilities for adapting CM in local programs. Our research team met with representatives of several programs. These meetings included providing education about CM and surveying those in attendance about their beliefs around evidence-based treatments and their readiness to implement such treatments. The meetings also involved a discussion about the logistics of implementing CM into their existing treatment programs. In the second phase of the project, research staff worked collaboratively with each participating treatment program to establish a CM protocol tailored to fit their services. Through this phase, treatment impact, client perspectives, implementation observations, and recommendations are discussed. The third phase used a national survey to investigate how attitudes toward EBPs impact beliefs about CM in providers of a wider selection Canadian addiction treatment programs.

PROJECT ENGAGE: PHASE I

Project Engage: Phase I

Phase I of Project Engage began with an informal meeting of representatives of Alberta and Saskatchewan programs to provide psychoeducation about existing research on CM and its implementation. The representatives were subsequently surveyed to understand their readiness to change and willingness to implement CM. The meeting concluded with a semi-structured interview to discuss the logistics of implementing CM into their existing programs.

Method

Participants

Project Engage was announced during the 2016 annual CRISM - Prairie Node meeting. Several managerial staff members from treatment programs in Alberta and Saskatchewan who attended the meeting expressed interest in participating in this study. Following this initial announcement, research staff followed up with interested individuals by email. Ultimately, the following agencies participated in Phase I: Alberta Health Services' (AHS) Addiction Centre - Adolescent Program (Foothills Medical Centre, Calgary, AB), AHS' Adult Addiction Services (Calgary, AB), Aventa Centre of Excellence for Women with Addictions (Calgary, AB), Fresh Start Recovery Centre (Calgary, AB), Royal Alexandra Hospital - Addiction Recovery and Community Health (ARCH) Team (Edmonton, AB), and the Saskatchewan Health Authority's (SHA) Calder Centre – Adult Services (Saskatoon, SK).

Procedure

Researchers met with staff from each of the aforementioned agencies to provide education about CM, conduct a qualitative interview, and distribute a quantitative survey.

Education about CM. Staff groups from the participating agencies were led through a PowerPoint presentation on CM outlining CM's utility, origin and founding principles, history and research, the seven principles guiding it, low-cost incentive options, challenges, perspectives, and collaboration between researchers and treatment providers. This presentation was adapted from the original 'Promoting Awareness of Motivational Incentives (PAMI) Blending Initiative' presentation to be more appropriate for these audiences. The PAMI initiative was a collaboration between the National Institute on Drug Abuse (NIDA) and the Substance Abuse and Mental Health Services Administration (SAMHSA) in the United States.

Qualitative Interview. Semi-structured interviews were conducted to further understand attitudes towards CM implementation. Specifically, two to three open-ended questions guided by the CFIR (Damschroder et al., 2009) were discussed, focusing on CFIR intervention and

implementation process characteristics. Meeting notes were taken and the discussions were audio recorded to extract discussion themes.

Quantitative Survey. Staff completed a quantitative survey assessing dimensions of the CFIR as they relate to CM. The survey was comprised of items from three assessment tools, the Organizational Readiness for Change Scale – Treatment Staff Version (ORC-S TS; Institute of Behavioral Research, 2003), the Evidence-Based Practice Attitude Scale (EBPAS; Aarons, 2004), and the Contingency Management Beliefs Questionnaire (CMBQ; Rash et al., 2012). Figure 1 illustrates how subscales from each questionnaire map onto the CFIR model.

Measures

ORC-S TS. The ORC-S TS measures organizational qualities influencing readiness and ability to adopt new practices. The treatment staff version contains 23 subscales corresponding to the larger themes of Motivation for Change, Resources, Staff Attributes, Organizational Climate, Training Exposure, and Utilization. Each item is rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items for each subscale are averaged (following reverse scoring of particular items) and multiplied by 10, producing a score between 10 and 50 (midpoint of 30). The ORC-S TS provides percentile norms from all programs studied to date by the Texas Christian University's Institute of Behavioral Research (TCU-IBR) who developed the ORC-S TS. The sample (N = 2,031) in which score profiles were calculated were highly diverse in their treatment settings and orientations. One sample t-tests were used to compare the mean subscale scores from the TCU-IBR's research to the mean scores derived from Phase I. For the current study, only select subscales were included: *Program Needs*, *Training Needs*, and *Pressures for Change* (Motivation for Change; 8, 8, and 7 items, respectively); *Staffing* and *Training* (Resources; 6 and 4 items, respectively); *Growth*, *Influence*, and *Adaptability* (Staff Attributes; 5, 6, and 4 items, respectively); and *Mission*, *Autonomy*, *Communication*, *Stress*, and *Change* (Organizational Climate; 5, 5, 5, 4, and 5 items, respectively). Previous research has demonstrated that the ORC has acceptable psychometric properties (Lehman, Greener, & Simpson, 2002; Simpson & Flynn, 2007). In the current study, the internal consistency ranged from α = 0.43 to 0.91, with an overall mean scale reliability of 0.62. The Autonomy subscale had a low internal consistency consistent with previous research (α = 0.56; Lehman et al., 2002).

EBPAS. The EBPAS is a 15-item self-report measure used to evaluate attitudes towards evidence-based practices. Items are rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (to a very great extent). The EBPAS provides an overall total score as well as scores for the four subscales including: *Appeal* (4 items measuring the degree to which a practice would be adopted based on its intuitive appeal, whether it is reasonable, ability to be used effectively, or whether colleagues

utilized it); *Requirements* (3 items measuring the degree to which a practice would be adopted a new based on it being required by an agency, supervisor, or other authority); *Openness* (4 items

measuring the degree to which a provider is open and willing to use new therapies); and *Divergence* (4 items measuring the degree in which evidenced-based practices are clinically ineffective and inferior to clinical experience). Subscale scores are averaged (ranging from 0 to 4) and the total score includes the average of all items with the divergence scale items reverse coded. Item 13 was modified to improve relevancy to our Canadian sample (i.e., "it was required by your state" was changed to "it was required by your province/city"). The measure's psychometric properties have been previously established (Aarons, 2007). In the current study, the internal consistency ranged from α = 0.60 to 0.94, with an overall scale reliability of 0.75.

CMBQ. The CMBQ was used to assess beliefs regarding CM. The measure includes 35 self-report items, 32 of which correspond to three subscales: *General Barriers* (17 items); *Training Barriers* (4 items); and *CM-supportive statements* (ProCM; 11 items). Each item is rated on a 5-point Likert scale ranging from 1 (no influence at all) to 5 (very strong influence) on the degree to which the item would influence their adoption of CM. Items from each subscale are averaged to provide a score ranging from 1 to 5. The second item was modified to improve relevancy with our sample (i.e., "I can't bill for the extra work and effort involved in CM" was changed to "I don't have time in my position for the extra work and effort involved in providing CM"). The CMBQ has demonstrated adequate psychometric properties. The current study's internal consistency ranged from α = 0.64 to 0.83, with an overall scale reliability of 0.74.

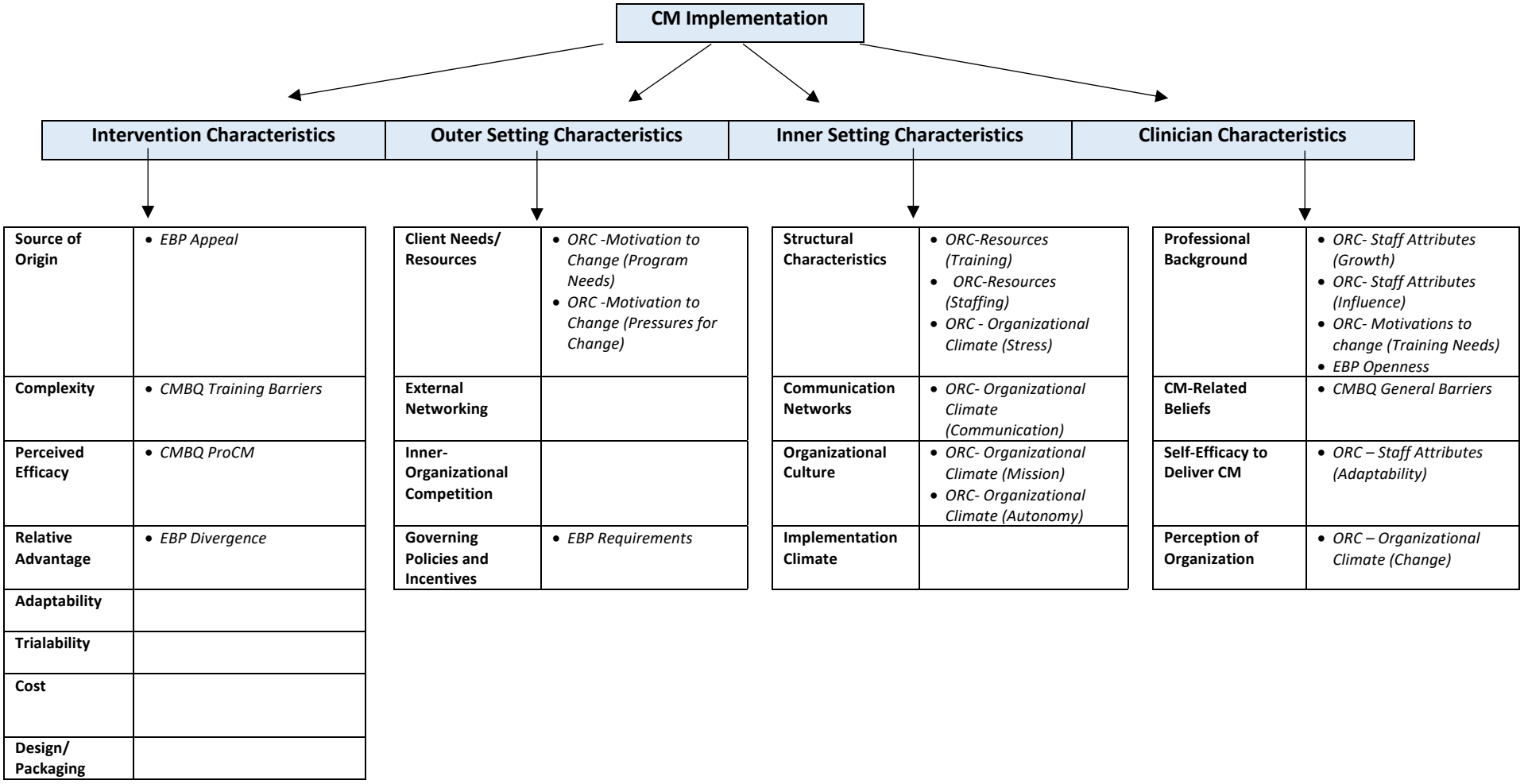
Statistical Analysis

Quantitative Survey. Mean subscale scores for the current study were compared to the mean scores of past research using univariate analyses. Specifically, one-sample t-tests were conducted to determine whether the current sample mean subscale scores for the ORC-S TS differed from treatment providers in past research (Lehman et al., 2002; Aarons, 2004; Rash et al., 2012, respectively).

Qualitative Interview. Audio recordings were transcribed verbatim with all personal identifiers removed to preserve anonymity. The transcribed data were reviewed by both the interviewer and the transcriptionist to ensure transcription accuracy. An initial coding framework using an inductive (bottom-up) thematic analysis method (Braun & Clark, 2006) was developed by the transcriptionist, a research assistant, independent of the project. Pertinent phrases and sentences were coded and the codes' reliability was ensured through discussion between the transcriptionist and the interviewer. All codes relevant to the research questions were combined

Figure 1.

Measures used as they relate CFIR's CM Implementation Model



Note: The Implementation Processes dimension will be addressed in the qualitative portion of the Phase I

into themes and vague or irrelevant codes were discarded. Coding and themes were reviewed again individually and as a whole before they were defined.

Results

Participant Information. Managerial staff from each of the interested agencies identified staff members to attend the Phase I meeting. These groups were largely comprised of management and supervisors (*N* = 15, 28.0%) or counsellors (*N* = 32, 60.4%). Table 1 illustrates the agency and participating staff information. A majority of staff surveyed were from Adult Addiction Services (AHS; *N* = 25 / 47.2%). Specifically, counsellors from this program made up 39.6% (*N* = 21) of the sample.

Table 1.

Phase I staff and agency information

Province	Agency	In Attendance *(N / %)*	Agency role	*(N/ %)*
Alberta	Addiction Centre - Adolescent Program (AHS)	**9 / 17.0%**	Management/ Supervisors Counsellors Other	**2 / 3.7%** **4 / 7.6%** **3 / 5.6%**
	Adult Addiction Services (AHS)	**25 / 47.2%**	Management/ Supervisors Counsellors	**4 / 7.6%** **21 / 39.6%**
	Aventa Centre	**6 / 11.3%**	Management/ Supervisors Counsellors	**2 / 3.7%** **4 / 7.6%**
	Fresh Start Recovery Centre	**4 / 7.6%**	Management/ Supervisors Counsellors	**3 / 5.6%** **1 / 1.9%**
	Royal Alexandra Hospital - ARCH Team	**5 / 9.4**	Management/ Supervisors Counsellors Other	**2 / 3.7%** **0 / 0.0%** **3 / 5.6%**
Saskatchewan	Calder Centre- Adult (SHA)	**4 / 7.6%**	Management/ Supervisors Counsellors	**2 / 3.7%** **2 / 3.7%**

Quantitative Survey. Table 2 provides the mean scores and t-test results comparing the current study and previous research findings. Subscale scores were organized to correspond to their appropriate CIFR dimension. For the Intervention Characteristics dimension's subscales, the current sample was neutral concerning EBPAS appeal, strongly disagreed with the EPAS divergence subscale, disagreed with the CMBQ's Training Barriers, and were trending towards an agreement with the CMBQ's ProCM subscale.

Project Engage: Phase I

Table 2.

Mean scores for the current study, past research and t-test comparison as they relate the CFIR.

		Current Study			Past Studies					
CFIR Dimension	**Questionnaire Subscales**	**Mean**	**SD**	α	**Mean**	**SD**	α	**t-test**	**df**	**p value**
Intervention	EBPAS – Appeal	3.21	.376	.70	2.90	0.67	.80	5.83	49	**< .001***
	EBPAS – Divergence	1.04	.593	.60	1.34	0.67	.59	-3.71	52	**.001***
	CMBQ – Training Barriers	2.27	.772	.64	2.86	1.06	.78	-5.58	52	**< .001***
	CMBQ – ProCM	3.82	.439	.83	3.46	0.91	.92	5.97	52	**< . 001***
Outer Setting	EBPAS – Requirements	3.05	.753	.94	2.47	0.88	.90	5.42	49	**< .001***
	ORC – Motivations for Change (Program Needs)	33.16	7.41	.62	30.90	6.91	.84	2.22	52	**.031**
	ORC – Motivations for Change (Pressures to Change)	31.76	7.55	.84	30.30	6.21	.68	1.41	52	.164
Inner Setting	ORC – Resources (Training)	33.29	5.46	.62	34.50	7.78	.64	-1.62	52	.112
	ORC – Resources (Staffing)	34.50	4.45	.56	31.40	7.36	.78	5.05	52	**< .001***
	ORC – Organizational Climate (Stress)	30.09	9.32	.86	32.70	8.66	.90	-2.04	52	**.047**
	ORC – Organizational Climate (Communication)	34.51	7.50	.85	32.50	7.44	.82	1.95	52	.056
	ORC – Organizational Climate (Mission)	38.22	4.59	.69	35.30	6.42	.75	4.61	52	**< .001***
	ORC – Organizational Climate (Autonomy)	35.02	5.19	.43	35.20	5.77	.56	-.254	52	.801
Clinician	EBPAS – Openness	3.11	.462	.76	2.49	0.75	.78	9.53	50	**< .001***
	CMBQ – General Barriers	2.34	.439	.75	2.42	0.71	.90	-1.28	52	.207
	ORC – Staff Attributes (Growth)	38.31	5.51	.64	35.60	6.42	.72	3.57	52	**.001***
	ORC – Staff Attributes (Influence)	36.90	8.72	.91	35.90	5.96	.79	.835	52	.408
	ORC – Motivations to change (Training Needs)	29.90	9.30	.67	29.60	7.27	.88	.232	50	.818
	ORC – Staff Attributes (Adaptability)	37.93	4.62	.62	38.20	5.48	.76	-.434	52	.666
	ORC – Organizational Climate (Change)	34.54	5.64	.62	33.40	6.27	.76	1.48	52	.145

Staff provided neutral responses for all subscales of the Outer Setting Characteristics dimension (i.e. EBPAS Requirements, ORC Motivations for Change – Program Needs, and ORC Motivations for Change – Pressures to Change). Subscale scores for the Inner Setting Characteristics dimension suggest that the sample was neutral for a majority of the subscales (i.e., ORC Resources – Training, ORC Resources – Staffing, ORC Organizational Climate – Stress, and ORC Organizational Climate – Communication). However, staff scores were trending toward agreement with ORC Organizational Climate – Mission and the ORC Organizational Climate – Autonomy subscales. Although a majority of the subscales for the Clinician Characteristics dimension suggest staff had neutral attitudes (i.e., EBPAS Openness, ORC Motivations to Change – Training Needs, and the ORC Organizational Climate – Change subscales), scores for the ORC Staff Attributes – Growth and Staff Attributes – Influence were trending towards agreement, and disagreed with the CMBQ's General Barriers.

Comparing the current subscale scores to that of past literature, there were statistically significant differences for all subscales in the CFIR dimension of Intervention Characteristics. The current sample had significantly higher scores for the EBPAS Appeal scale than previous research. As expected, the current sample had lower EBPAS Divergence scale scores. Likewise, the current sample also had elevated scores for the CMBQ ProCM scale and significantly lower scores for CMBQ Training Barriers than previous studies.

Concerning the Outer Setting Characteristics dimension, the current sample had significantly higher scores for the EBPAS Requirements and the ORC Motivations for change – Program Needs subscales. No significant differences were observed between groups for the ORC Motivations for Change – Pressures to Change subscale.

For the Inner Setting Characteristics dimension, the current sample had higher mean scores for the ORC Resources – Staffing and ORC Organizational Climate – Mission subscales. Significantly lower scores for the ORC Organizational Climate – Stress scale were observed among the current sample compared to previous research. No significant differences were observed between groups for the remaining subscales of this dimension.

Lastly, for the Clinician Characteristics dimension, the current sample had significantly higher scores for EBPAS Openness and ORC Staff Attributes – Growth. No significant differences were observed between groups for the remaining subscales.

Qualitative Interview. For clarity, Table 3 organizes the most common subthemes and examples of staff responses within the components of the CFIR process dimension they correspond with most clearly. For the CFIR process dimension's planning characteristic, the subthemes of best

Table 3.

Common subthemes and examples extracted from the qualitative interviews as they relate to the CFIR's Process dimension

Planning	**Best Outcomes and Targeted Behaviour**	"More client retention, we are looking at more people having longer sober days, more sober days" "Less skipped groups, because after so many skipped groups [and] they're discharged… so avoiding discharge, skipped groups, all of that" "[Incentivizing] clean drug screens…" "Focusing on individual goal completion, or appointment attendance together with negative urine screens."
	Barriers	"…this all has a cost, so then we would do contingency management and any time money comes up, umm, it's a harder discussion and there's this balance between operationally can we support it and how much staffing do you need. So, there's that cost balance." " It's so hard to do research on [CM] because each [client] would have different incentives probably…"
	Strategies for Rewards	"Weekend pass … is another incentive." "Tim Hortons cards when their rooms were done up extra nice." "…giving them 5 dollars per clean drug screen…" "Actually, why can't we do things we are already doing, in house. Like, free parking, a 5 min long distance call, or a weekend pass… a grand prize could be no chores for a week."
Engaging	**Staff CM Viewpoints**	"The first thought I had is well you are enabling these people right? …But I do get the sense that if there is a reward, their positive behaviour increases." " I don't think there would be resistance with the staff, it would take … communication with the larger staff so they understand it … [and are not] confused by the intent .." "I think … staff at the meeting want to know what [CM] is, how it impacts the client, what does it mean for me, does it mean more work for me? … At the end, people are interested in the results." "I believe any success is contingent on their degree of willingness. This will complement their journey but this is not going to make someone stay clean… I think it will be easy to show the other counsellors, because there is validity to it …I think this is valid if it is presented properly."

	Training	"I think we need a framework before we include counsellors, otherwise it's going to be chasing chaos – we also need to figure out our baselines."
	Opinion leaders	"Well, I think realistically it would go up the food chain, right? So, the executive director would know because I would tell my director."
	Champions	"I thought like, getting alumni people , like a peer mentor to go in there and give them the support, they would rather hear a peer support than a counsellor point of view and a peer support in that group in order for them to come." "There can be an incentive to see a peer, a lot of the clients they come and ask for that." "Nurse Practitioners or social workers [could be in charge of incentives] because they're consistent."
Executing	**Resources Required**	"We have the staff, we have the program all that kind of stuff. There isn't a fund for the actual prizes. We would need the prizes, the financial investment. We have a fishbowl – we could put in affirmations. The set prizes would be one aspect. And what you would require in documentation, in intervening with the clients, administer orientation session - time for that. Staff trained to teach new clients what we are doing."
Reflecting and Evaluating	**Research**	"I think from an organizational perspective, we are interested in being involved in the research for sure, and I think from the outcomes of that- -but there isn't a specific budget for on-going incentives for clients, but depending on what the cost of that is we could look at – especially if there is research behind it – improving outcomes." "We could look at historical data to compare. With different groups. I have no problem with both groups."
	Data Reporting	"We would highlight it on our website, talk about it in our annual report, we might talk about it as quality improvement for accreditation Canada… maybe a paper and presentation at a conference. " "[We have] an interest in contributing to best practice, and contributing to community knowledge. " "I would present it at the Alberta Psychiatric Association leaders… what this does is get professionally the top provincial psychiatric needs sort of people from all over the province, and then that's when things actually officially change happens. So, when we want change, that's the best avenue for change to occur. "So, then I think if anything, implementation across the board, and the fact that it's a big organization, if it works out in one part, we can make it happen throughout the province, right? Logistically, we say look, we found this really incredible outcome, then we need to look at how we can implement this across the board in [the province]."

outcomes and target behaviours, barriers, and strategies for rewards emerged. Common subthemes for the engaging characteristic were staff CM viewpoints, training, opinion leaders, and champions. A single subtheme of resource requirement emerged that pertained to CM execution. Lastly, for the characteristics of reflecting and evaluating, the themes of research and data reporting emerged.

Conclusions

Overall, the results of Phase I suggest that the participating programs had relatively positive climates for CM implementation. Specifically, mean scores assessing the CFIR constructs of intervention, outer setting, inner setting, and clinician characteristics suggest that the current sample was more open to change and the implementation of CM in their existing programs compared with previous research.

Most of the research evaluating the transportability of CM has focused on Intervention Characteristics (59%; Hartzler, Lash & Roll, 2012). The current study assessed Intervention Characteristics using four subscales, two of which assessed a positive orientation towards CM (EBPAS – Appeal and CMBQ – ProCM) and two that focused on the negative features (EBPAS – Divergence and CMBQ – Training Barriers). The current sample had significantly higher scores for the positive subscales of CM in comparison to previous samples. This difference suggests that the staff surveyed found CM to be intuitively appealing and efficacious. Unsurprisingly, the current sample had significantly lower scores for the subscales with a negative orientation towards CM. Specifically, the staff surveyed had fewer concerns regarding the training needed and did not perceive CM as divergent from their current practices. Given CM's appeal, endorsement of supportive CM statements, perceived relative advantage over other interventions, and lack of training related concerns, the results suggest that the sites surveyed would be ideal for piloting the implementation of CM.

Outer Setting Characteristics encompass the social and economic factors influencing implementation. The current sample significantly differed from past research on two of the subscales assessing outer setting characteristics. Greater motivation to change at the program level was reported (ORC- Motivation to Change – Program Needs) with a specific focus on client needs. Placing a priority on patient-centred care suggests that the current sample would be receptive to implementing CM should it improve treatment outcomes. Another important construct of the outer setting is the influence of the external governing policies (e.g., external mandates, clinical guidelines, and public reporting). The current sample had higher scores on the EBPAS – Requirements subscale which suggests that external authorities have a strong degree of

influence on the adoption of CM. Therefore, if external entities view CM as efficacious, staff would be more inclined to implement CM.

Inner Setting Characteristics consider the program's internal structure and culture and mediate the influence between the Outer Setting characteristics and implementation. According to the ORC Resources – Staffing scale the treatment providers reported having enough staff to meet the program's needs. Although past research suggests that the number of staff is not predictive of intervention adoption (Bride et al., 2011; Ducharme et al., 2007), increased staff time and workload are often cited as a deterrent to CM implementation (Rash et al., 2012). Adding to this, staff reported having lower stress levels (ORC- Organizational Climate – Stress) than those surveyed in past research. Taken together, sufficient staffing would promote the dispersion of the responsibilities and duties of CM implementation, minimizing individual workload increases and mitigating stress. Although most organizational climate constructs have not been found to strongly predict intervention adoption (Henggeler et al., 2008), the staff in Phase I reported having a stronger understanding of their program's mission and goals (ORC- Organizational Climate – Mission). The mission of most addiction treatment programs may be centred around client progress. Therefore, if CM is deemed efficacious, its implementation would support the programs' mandate, suggesting that belief in their programs' mission would be a supportive element in a program's choice to adopt CM.

Lastly, Clinician Characteristics are important factors influencing adoption. Fortunately, results suggest that the staff surveyed endorsed the desire and drive for growth (ORC- Staff Attributes – Growth) and were open to learning about and implementing CM in their practice (EBPAS – Openness).

In conclusion, the quantitative survey results suggest that the staff surveyed have a positive and open attitude toward CM. This finding is further supported by the apparent implementation readiness endorsed in the outer and inner settings. The fifth domain of the CFIR, the implementation process, was assessed in the current study's qualitative interview portion.

Through the qualitative interview, subthemes emerged about the planning, engagement, execution, reflection, and evaluation stages of implementation. The most common subtheme about the planning stage concerned which targeted behaviour(s) would provide the best treatment outcomes. Staff largely focused on behaviours that were the most problematic and in need of change as well as behaviours that would contribute most significantly to the broader goal of abstinence. Another common subtheme among the planning stage was the identification of implementation barriers. Though the cost was a notable barrier among all programs, two programs also discussed the difficulty of implementing CM in programs offering individualized

treatment plans. For instance, for programs incentivizing appointment attendance, the number of individual appointments may vary by client need. Furthermore, there were discussions about their clients' individual needs as related to incentive preferences and magnitudes. Further relating to incentives, discussions concerning various reward options emerged. Specifically, staff discussed previously used incentives, the most desirable incentives, and the most appropriate incentive options for their existing programs. The targeted behaviour, incentive options, and incentive magnitude are considered crucial principles in the implementation of CM; therefore, the fact that staff tended to focus on these elements suggests they would put a high degree of emphasis on the implementation plan's quality.

For the engagement stage, there was considerable discussion regarding staff views on CM, which included subthemes of staff resistance, fears of enabling clients, as well as the need for education and a solid implementation framework. The need for a framework was further echoed within the subtheme of training in that staff expressed reservations about implementation and the potential for negative outcomes without a formalized methodology. Two additional subthemes that emerged related to leadership for CM implementation. The concept of opinion leaders was discussed briefly, emphasizing the importance of presenting the implementation proposal to management and acquiring their support. Suitable implementation leaders was another notable subtheme of the engagement stage, each program having a different perspective of who their leaders would be. However, the overall consensus was that peer and/or counsellor inclusion were crucial. These are important discussion points as implementation research highlights the importance of collaboration amongst program management and implementation leaders.

A single subtheme emerged for the execution stage - the available and required resources. While the programs reported having a sufficient number of staff members, they acknowledged the need for financial resources to purchase incentives, the creation of documents (e.g., protocol outline, data and inventory records), and formalized CM training.

Finally, the subthemes of research and data reporting emerged when discussing the reflection and evaluation stage of implementation. Interest in research involvement and the influence of previous research on the implementation of CM were common discussion points. Staff also discussed the elements required to conduct a research study including baseline data to evaluate the impact of the adoption of CM into their existing programs. Generally, the attention paid to research methodology suggests that the surveyed staff would put forth a rigorous effort to ensure the fidelity of CM's implementation. Concerning the research process, the subtheme of data reporting also emerged and the ways in which results could be disseminated were discussed. Specific options for dissemination included research conference presentations and treatment program reports. The impact of reporting favourable implementation results was also discussed

within the context of the accreditation process, with staff noting how improved treatment engagement and client outcomes would be helpful for this process. Furthermore, the impact of disseminating positive implementation was also considered within a larger scope that could extend to influencing the adoption of efficacious treatments province-wide. This finding is particularly important given that the goal of Project Engage and CRISM is to bring evidence-based interventions to the front line of substance abuse treatment in the Prairie Provinces.

Although Phase I provided insight into the implementation process, the results should be considered in light of several limitations. While precautions were taken, social desirability bias may have influenced responses. Although only minimal identifying information was collected and staff were informed that all data would be presented as an aggregate, some staff expressed concerns regarding anonymity. Specifically, concerns arose regarding the collection of data concerning job title as some staff had very specific titles which could increase the risk of identification. To control for this, the agency role categories were limited to management, counsellors, and other. Another limitation relating to the statistical analyses is that the obtained data from the quantitative study could only be compared to past research. While the ORC provides subscale means and norms, these are not yet provided for the CMBQ and EBPAS. Comparing results to past studies is problematic as the samples differ, therefore, this is not an ideal comparison and means and norms for both the CMBQ and EBPAS should be established. The fact that the rating scale of the CMBQ was altered (Rash et al., 2012) is another potential limitation. This measure is originally scored on a scale from 1 (no influence at all) to 5 (very strong influence) and was altered to be 1 (strongly disagree) to 5 (strongly agree) to enhance the overall clarity of the survey. Wording for an EBPAS item was also altered to be more relevant to the surveyed sample. Staff were also given the option to choose 'not applicable' as a response to all questions which was not an option provided in any of the original questionnaires. Regardless of these alterations, the current study's internal consistency was compatible with previous literature (Aarons, 2004; Aarons et al., 2007; Lehman et al., 2002; Rash et al., 2012; Simpson & Flynn, 2007). The limitations of the qualitative interview included the fact that the interview was semi-structured which could have led to the inclusion of leading questions influencing the subthemes identified. Furthermore, while the original thematic analysis was conducted by a research assistant independent from the project, the interviewer was consulted following the initial coding and could have been a source of bias in the final analysis.

Despite these limitations, this study provides helpful insight into the perspectives of treatment centre staff about CM. A significant strength of this entire project is that it provided an understanding of CM implementation within a Canadian context, a perspective that has been unexamined in the past. The study also is strengthened by the inclusion of questionnaires

assessing readiness to change, attitudes, and beliefs. Lastly, the addition of a semi-structured qualitative interview improves the evaluation of the quantitative measures and provides a deeper understanding of the implementation process. The study results suggest that substance-abuse clinicians have a positive and open attitude toward evidence-based treatments like CM. Therefore, it is recommended that science-based protocol change efforts focus on groups of clinicians and managers as their leaders for change.

PROJECT ENGAGE: PHASE II

Rationale and Aims

In Phase II, research staff worked collaboratively with interested programs from Phase I. Together, the program and research staff identified a program component where increased client engagement might improve client outcomes. Each incentive program was designed based on client needs. In each instance, client behaviour completion was assessed weekly by the program staff (i.e., recording when an individual attends a group or completes a goal) and successful participants were rewarded with a chance to win prizes. The effectiveness of the CM intervention was assessed by comparing client engagement before and during the CM implementation.

The primary aim of Phase II was to implement and evaluate the addition of CM in addiction treatment programs and to conduct an initial assessment of its effect on clients using uncontrolled open trials at each site. Through working directly with program staff, the results are expected to provide a novel understanding of implementation barriers, as well as recommendations for improved CM application in Canadian addiction treatment settings.

Four programs participated in Phase II including a residential program for men, an aftercare program for women in a residential program, an adult harm-reduction outpatient program for individuals not actively seeking recovery, and an outpatient adolescent treatment program. This report provides results from three of these programs. The CM intervention for the adolescent program was designed as a randomized trial. Although preliminary results from this site will be discussed in this report, a full account of the procedure and results will be reported separately.

A secondary aim of this phase was to gain a better understanding of the client experience. As past research has failed to examine client perspectives, the current phase compared staff and client beliefs about CM using the CMBQ (Rash et al., 2012), specific questions regarding clients' CM experience, and open-ended questions to obtain feedback to improve the CM protocol. Lastly, the third aim of Phase II was to report the observations made during the implementation process, and to offer recommendations based on the observations and experiences of the research and program staff.

Method

Participants and Procedure

Research staff worked collaboratively with each program to establish a protocol specifically tailored to fit their program (i.e., identifying a targeted behaviour, types of incentives, etc.). A description of the CM program was provided and interested clients were asked to sign an

informed consent form. Clients were provided with incentives (e.g., honoraria or gifts) for their participation in the study, separate from the CM protocol. Incentives were purchased and restocked by research staff approximately every two weeks. During the implementation of CM, targeted client behaviours were assessed weekly, with successful participants being rewarded with a chance to win prizes. Following Petry's prize bowl method, participants drew slips from a prize bowl. The prizes they could win ranged from affirmations (i.e., a 'good job', or a positive statement, saying or quote) to small ($1), medium ($5), large ($20) and jumbo prizes ($100) (Table 4).

Table 4

Prize ticket cost, number of slips and chance of winning

Ticket	Cost	Number of Slips	Chance (%)
Affirmation	$0	250	50%
Small	$1	209	41.8%
Medium	$5	30	6.0%
Large	$20	10	2.0%
Jumbo	$80-$100	1	0.2%

Client behaviour completion was assessed and recorded by the program staff. These data were then provided to the research staff. Additionally, research staff met with program staff to solicit their opinion on the implementation process, perceived barriers and issues, and suggestions to improve the implementation procedure. These informal meetings (i.e., not structured) were held as frequently as needed.

Fresh Start Recovery Centre

Fresh Start is a twelve to sixteen week residential treatment program that employs the 12-Step abstinence model of recovery and is located in Calgary, Alberta, Canada. The program offers daily individual and group counselling as well as various recreational and therapeutic activities. Clients are required to set and achieve individual goals in 12 life skill areas throughout their treatment. The goal areas included are outlined in Table 5.

Employing the SMART goal planning guidelines, clients are encouraged to set goals that are specific, measurable, attainable, relevant to the client's beliefs and values, and achievable within a 12-week timeframe. Each goal area has an overall goal divided into six action steps. The client's progress on these actions steps is assessed by program staff every four weeks.

Table 5

Fresh Start's 12 life skill areas

Recovery	Emotional and mental wellbeing	Spiritual
Family relationships	Social relationships	Physical health and wellbeing
Employment	Education and training	Legal
Financial	Housing	Creative arts and hobbies

Pilot One

Protocol

Fresh Start management chose to focus on client goal completion as the CM target. Specifically, the targeted behaviour was the completion of the creative arts and hobby goal (e.g., learning to play the drums, completing an art portfolio, writing poetry or a short story, etc.). This goal has traditionally been a weaker area for men starting the program and has had lower completion rates than the other goal areas. To maintain a frequent reinforcement schedule, the six action steps were further divided into a total of 12 action steps that could be assessed weekly. Action steps were set weekly and clients identified the method with which step completion would be verified.

The third pilot was conducted from December 2018 to March 2019. A combination of Petry's 'fishbowl' method and the voucher system was utilized. Clients earned draw prize slips ranging from affirmations (e.g., good job) to $1, $5, $20 and $100 vouchers for each weekly action completed. Amounts won accumulated and the purchase of requested items was negotiated with the program and research staff. The decision to combine these two incentive methods came from a managerial request that the incentives assist in creative arts/hobby goal area completion. Rather than survey the clients and purchase items for an on-site prize distribution program, the voucher system was chosen as hobbies varied greatly among clients. Clients received one draw for their first completed action step, with the number of draws increasing by one for each consecutive step completed, up to a maximum of five draws. The number of draws reset to one if a step was not completed.

Results

Participant Information. The sample consisted of 13 males in the CM group (*M age* = 36.69 , *SD* = 11.54) and 47 in the control group (*M age* = 37.74 *SD* = 10.76) (Table 6). In both groups, the majority of participants were Caucasian, unemployed, and did not have any current legal

problems. Alcohol was the most common primary addiction for both groups. Additionally, fentanyl and methamphetamine addiction were more frequent in the CM group. Fewer individuals in the CM group reported seeking treatment for cocaine addiction. Despite these differences, there were no significant demographic differences between the two groups.

Table 6

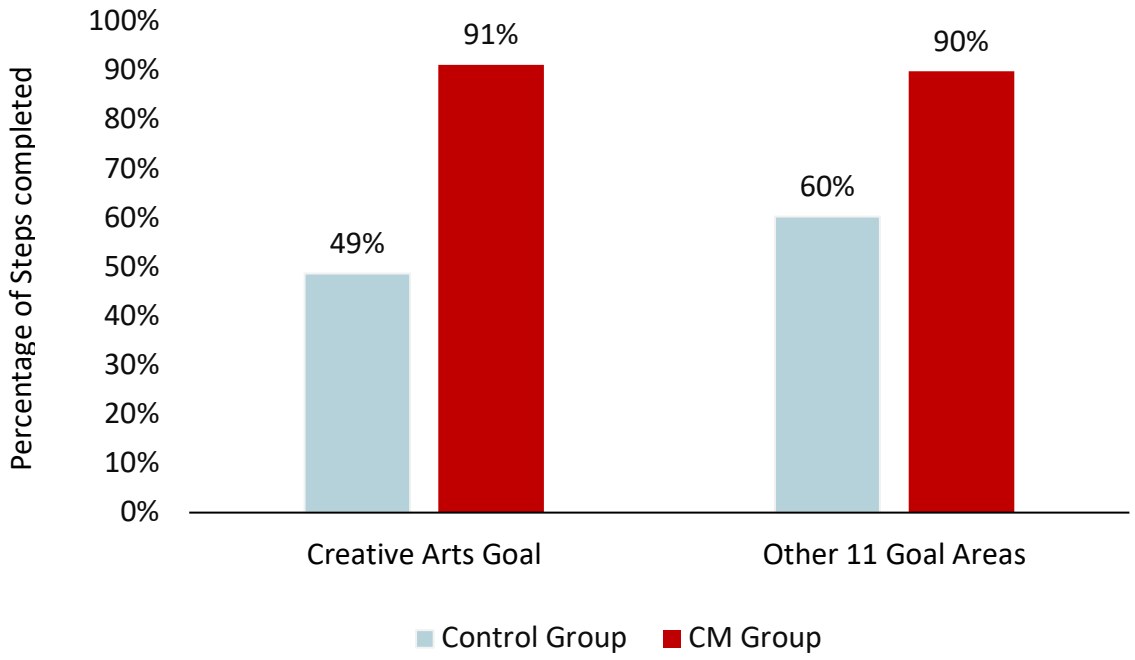
Demographic variables for Fresh Start's control and first CM pilot group

	Contingency Management			
	CM Group (*N* = 13)	**Control Group (*N* = 47)**	**Test**	**P value**
Age	36.69	37.74	.104	.748
	***N* / %**	***N* / %**	**Test**	**P value**
Ethnicity			1.82	.661
Caucasian	12 / 92.3%	36 / 76.6%		
First Nations	1 / 7.7 %	7 / 14.9%		
Metis		2 / 4.3%		
Other		2 / 4.3%		
Legal Status			5.18	.521
No legal issues	9 / 69.2%	20 / 42.6%		
Probation	0 / 0.0%	7 / 14.9%		
Day Parole	2 / 15.4%	7 / 14.9%		
Stat Parole	0 / 0.0%	3 / 6.4%		
Legal Court Date/s Pending	1 / 7.7%	2 / 4.3%		
Charges Pending	0 / 0.0%	1 / 2.1%		
CSC	1 / 7.7%	7 / 14.9%		
Primary Addiction			8.89	.180
Alcohol	5 / 38.5%	16 / 34.0%		
Cannabis	0 / 0.0%	4 / 8.5%		
Cocaine	1 / 2.1%	13 / 27.7%		
Fentanyl	4 / 30.8%	5 / 10.6%		
Heroin	0 / 0.0%	4 / 8.5%		
Methamphetamine	3 / 23.1%	4 / 8.5%		
Prescription Opiates	0 / 0.0%	1 / 2.1%		
Employment			.784	.676
Employed	2 / 15.4%	4 / 8.5%		
Unemployed	11 / 84.6%	42 / 91.3%		

Goal completion. Creative arts goal step completion rates of the CM group *(M* = 91.23%, SD = 14.50) were higher than those of the control group (*M* = 48.75%, SD = 34.17), *t*(58) = 4.35, *p* <.001 (Figure 2). Although not targeted by the CM program specifically, the step completion rates for the other 11 goal areas were also higher for the CM group (*M* = 89.92%, *SD* = 10.36) in comparison to the control group (*M* = 60.26%, *SD* = 36.90), *t*(58) = 2.85, *p* <.001.

Figure 2

Completion rates for the creative arts and 11 other goal areas for the control group and the first pilot CM group at Fresh Start.



The value of vouchers won. The total value won by those in the CM group was $1,298.99. Each participant won a mean of $8.32 weekly (ranging from $0 to $123).

Conclusions

These findings demonstrate a 42% increase in creative arts step completion rates following CM implementation. Furthermore, step completion percentages for the 11 other goal areas were 30% higher for those in the CM group than those in the control group. These results suggest that the CM protocol effectively incentivized participants to complete their creative arts steps, all the while increasing step completion rates for the other goal areas. Based on this success, a second pilot was designed that expanded the focus to the step completion of 11 goal areas versus only the creative arts goal area, with the aim of increasing the efficacy of CM without substantially

increasing the cost. Given the increase in expectations, successful clients received twice as many prize slip draws in a similar accumulating fashion.

Pilot Two

Protocol

The third pilot was conducted from July 2019 to October 2019. The 11 goals areas targeted were recovery, family relationships, employment, financial, emotional and mental well-being, social relationships, education and training, housing, spiritual, physical health and well-being, and creative arts and hobbies. The legal goal area was excluded as not all men entering Fresh Start had legal concerns.

With 11 goal areas targeted, and Fresh Start's treatment manual dividing each goal area into six action steps, clients were asked to complete six steps each week. Clients listed six action steps, from any goal area (e.g., 2 from recovery, 3 social relationships, 1 from housing) to be completed the following week. The counsellor and research assistant assessed step verification methods which proved to be more challenging for some goal areas than the creative arts goals targeted in the first pilot. Some examples of goal completion verification included: cell phone photos (i.e., participating in activities, spending time with family, attending recovery groups); providing documents (i.e., housing applications, credit check reports, resumes); showing phone or internet usage (i.e., phone calls to family, websites visited such as job search engines or university course catalogues); attendance at in house programs (i.e., fitness classes, meditation); questioning the individual (i.e., asking questions regarding what was read in the Big Book, university course requirements); and journaling (i.e., workout journal, budget break down, journal entries about mental wellbeing and sleep routines).

Pilot two utilized the same incentive method as the first pilot (i.e., a combination of fishbowl draw method and voucher system), with draw slip ratios and voucher amounts remaining the same. Once again, the amounts won accumulated and the purchasing of desired items was negotiated with the counsellor and research staff. The only change to the protocol was to double the number of draw slips for successful step completion. For instance, the first time all six goals were completed, they received two draw slips and the number of draws increased by two for each consecutive week in which six steps were completed, up to a maximum of ten. If a client did not complete all six steps, the number of draws reset to two at the following assessment. No draw slips were provided for partial completion of the six steps and the portion of completed steps could not carry over to the following week.

Results

Participant Information. The sample consisted of 10 males in the CM group (*M age* = 33.60, *SD* = 9.18). The same 47 control individuals included in the first pilot analysis served as the second pilot's control group. A majority of men in both groups were Caucasian, had a primary addiction to alcohol, and all were unemployed. The CM group had more variation in their legal status than the previous group with 70% having a current legal issue. Despite this difference, no statistically significant demographic differences were observed between the groups (Table 7).

Table 7

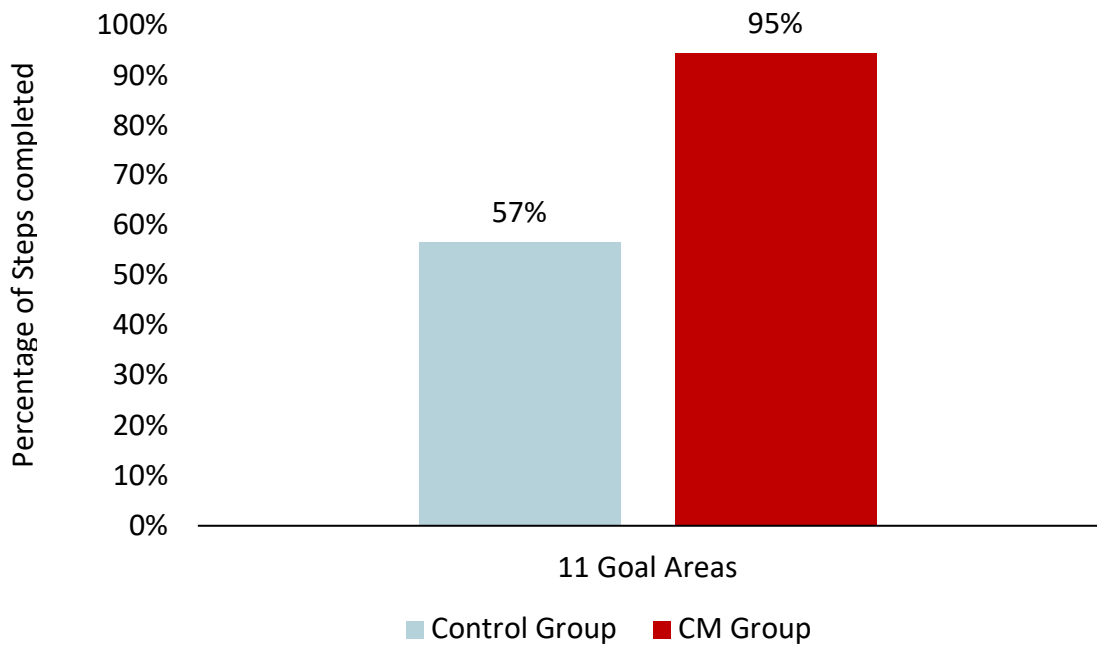
Demographic variables for Fresh Start's control and second CM pilot group

	Contingency Management			
	CM Group (*N* = 10)	**Control Group (*N* = 47)**	**Test**	**P value**
Age	33.60	37.74	.104	.748
	***N* / %**	***N* / %**	**Test**	**P value**
Ethnicity			1.82	.661
Caucasian	9 / 90.0%	36 / 76.6%		
First Nations	1 / 10.0 %	7 / 14.9%		
Metis		2 / 4.3%		
Other		2 / 4.3%		
Legal Status			5.18	.521
No Legal Issue	3 / 30.0%	20 / 42.6%		
Probation	2 / 20.0%	7 / 14.9%		
Day Parole	2 / 20.0%	7 / 14.9%		
Stat Parole	0 / 0.0%	3 / 6.4%		
Legal Court Date/s Pending	1 / 10.0%	2 / 4.3%		
Charges Pending	1 / 10.0%	1 / 2.1%		
CSC	1 / 10.0%	7 / 14.9%		
Primary Addiction			8.89	.180
Alcohol	5 / 50.0%	16 / 34.0%		
Cannabis	0 / 0.0%	4 / 8.5%		
Cocaine	2 / 20.0%	13 / 27.7%		
Fentanyl	2 / 20.0%	5 / 10.6%		
Heroin	0 / 0.0%	4 / 8.5%		
Methamphetamine	1 / 10.0%	4 / 8.5%		
Prescription Opiates	0 / 0.0%	1 / 2.1%		
Employment			.784	.676
Employed	0 / 0.0%	4 / 8.5%		
Unemployed	10 / 100.0%	42 / 91.3%		

Goal completion. Step completion rates for the 11 targeted goal areas of the CM group (*M* = 94.53%, *SD* = 11.42) were higher than the control group (*M* = 56.70%, *SD* = 35.44), *t*(55) = 3.32, *p* =.002 (Figure 3).

Figure 3

Completion rates for the 11 targeted goal areas for the control group and the second pilot CM group at Fresh Start.



The value of vouchers won. The total value won by those in the CM group was $1,986.00. Each participant won a mean of $19.86 weekly (ranging from $0 to $173).

Conclusions

The CM intervention was associated with a 38% increase in step completion for the 11 targeted areas, suggesting that the CM protocol effectively incentivized participants to complete their targeted steps. Results from both pilot studies support the effectiveness of CM in increasing goal completion. Although past research has largely focused on the target behaviour of abstinence, CM's impact on goal completion has also been studied. A handful of studies have assessed CM's efficacy at increasing treatment goal completion (Bickel, Amass, Higgins, Badger, & Esch, 1997; Iguchi, Belding, Morral, Lamb, & Husband, 1997; Petry, Martin, Cooney, & Kranzler, 2000), with mixed results. Of those previous studies reporting significant findings, the average completion

rates were between 70-80% when goal completion was reinforced. Therefore, the current findings of 91% and 95% exceed those reported in past research.

Following this success, the staff at Fresh Start questioned whether the increase in step completion was as a result of the incentives or the increased frequency that steps toward obtaining goals were monitored. Therefore, a third pilot was designed in which completion of goals in 11 life areas was assessed but not incentivized. In doing so, the third pilot study aimed to determine whether successful goal completion could be explained by increased assessment periods and the inclusion of devoted group time to review them as opposed to incentivization of goals.

Pilot Three

Protocol

The third pilot was conducted from February 2020 to May 2020. Once again, completion of actions from the 11 goal areas was the targeted behaviour. To keep the protocol consistent with the previous pilot study, clients were asked to complete six steps each week. Clients listed action steps (from any goal area) to be completed the following week and step completion verification methods were assessed. Step completion was assessed weekly and the results were recorded. The completion of the action steps was not incentivized beyond verbal recognition by the counsellor.

Results

Participant information. The third pilot sample consisted of 10 males with a mean age of 32 (*SD* = 7.13). The third pilot group was compared to the 47 individuals from the first pilot control group and the 10 individuals from the second pilot. The demographic variable of ethnicity was significantly different between groups. While a majority of men in the control and second pilot group were Caucasian, the third pilot group was more ethnically diverse, with 70% endorsing ethnicities other than Caucasian. Although the third pilot group endorsed more cocaine use and methamphetamine use than the other groups, no significant differences emerged between groups concerning primary addiction. No differences emerged for legal status between groups and a majority of individuals from all groups were unemployed (Table 8).

Goal completion. Step completion percentage rates for the 11 targeted goal areas for the third pilot group (*M* = 98.11%, *SD* = 9.39) were higher than the second pilot group (*M* = 94.53%, *SD* = 11.42) and the control group (*M* = 56.70%, *SD* = 35.44), *F* (2, 122) = 1.98, *p* =.142. Tukey HSD tests determined that significant group differences were observed between the second pilot CM group and the control, and between the third pilot group and the control. No significant differences were observed between the second pilot and the third pilot (See Figure 4).

Table 8

Demographic variables of Fresh Start's control, second CM pilot and third pilot group

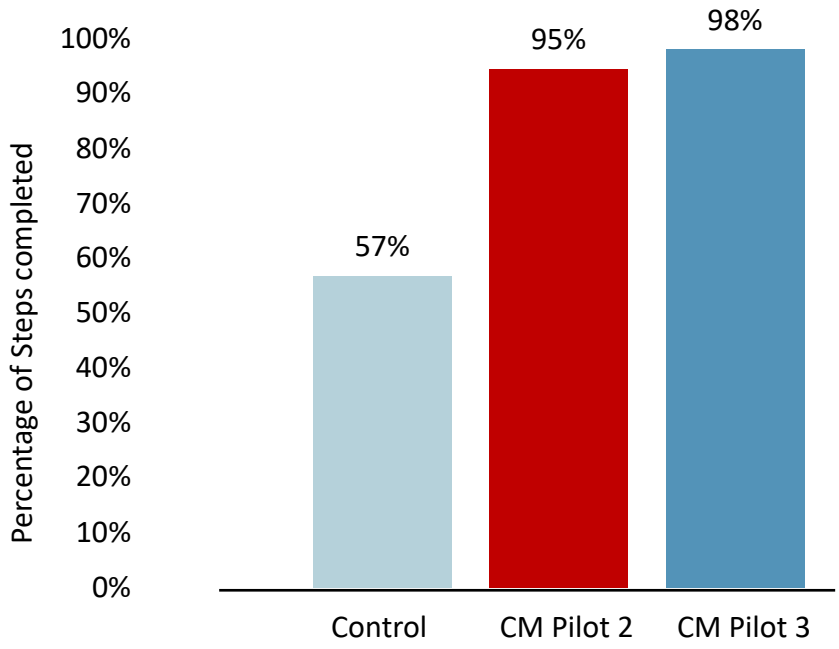
	Contingency Management Group				
	Pilot 3 (*N* = 10)	**CM Pilot 2 (*N* = 10)**	**Control Group (*N* = 47)**	**Test**	**P value**
Age	33.60	32.10	37.74	.104	.748
	***N* / %**	***N* / %**	***N* / %**	**Test**	**P value**
Ethnicity				17.34	.027
Caucasian	3 / 30.0%	9 / 90.0%	36 / 76.6%		
First Nations	2 / 20.0%	1 / 10.0 %	7 / 14.9%		
Metis	2 / 20.0%		2 / 4.3%		
Other	2 / 20.0%		2 / 4.3%		
Latin	1 / 10.0%				
Legal Status				14.34	.280
No Legal Issue	3 / 30.0%	3 / 30.0%	20 / 42.6%		
Probation		2 / 20.0%	7 / 14.9%		
Day Parole		2 / 20.0%	7 / 14.9%		
Stat Parole			3 / 6.4%		
Court Dates Pending	2 / 20.0%	1 / 10.0%	2 / 4.3%		
Charges Pending	2 / 20.0%	1 / 10.0%	1 / 2.1%		
CSC	3 / 20.0%	1 / 10.0%	7 / 14.9%		
Primary Addiction				7.94	.790
Alcohol	5 / 50.0%	5 / 50.0%	16 / 34.0%		
Cannabis			4 / 8.5%		
Cocaine	3 / 30.0%	2 / 20.0%	13 / 27.7%		
Fentanyl		2 / 20.0%	5 / 10.6%		
Heroin			4 / 8.5%		
Methamphetamine	2 / 20.0%	1 / 10.0%	4 / 8.5%		
Prescription Opiates			1 / 2.1%		
Employment				**2**.92	.572
Employed	2 / 20.0%	0 / 0.0%	4 / 8.5%		
Unemployed	8/ 80.0%	10 / 100.0%	42 / 91.3%		

Conclusions

The third pilot results suggest that the increase in goal step completion was independent of the incentives offered. Specifically, the third pilot group had a mean step completion rate of 98% while the second pilot group, that offered incentives, had a step completion rate of 95%. Although this difference was not statistically significant, these data suggest that the increase in

Figure 4

Completion rates for the 11 targeted goal areas for the control group and the second and third pilot CM groups at Fresh Start.



step completion may have been the result of increased frequency in which the steps were monitored, and the inclusion of devoted group time to review them.

The results should be taken in light of the fact that the study was an uncontrolled open-trial. Furthermore, several changes to the procedure occurred in the third pilot due to the Coronavirus Disease (COVID-19) pandemic. Given the high rates of COVID-19 in Calgary and the possibility of transmission, Fresh Start restricted all visitors from entering the facility, including the research staff, therefore limiting research staff involvement with the third pilot. This reduction increased the counsellor paperwork workload, resulting in some incomplete data.

Additionally, due to social distancing requirements, clients participating in the third pilot faced unique challenges in completing certain goal steps. Therefore, amendments to steps were made. For instance, clients with steps that involved visiting family were unable to do so. As a result, this step was changed to involve calling or video conferencing with family. Another example concerned attending out-of-house 12-step meetings which were either attended in-house or by video conferencing. These examples speak to client creativity in amending steps. However, it is possible that these amended steps required less time and effort (e.g., video conferencing versus

visiting family in-person or in-house meetings versus travelling to out-of-house meetings) than the original steps and the steps of those from the second pilot group. In conclusion, the results of the third pilot warrant further investigation in that future research should examine whether increased goal step completion is observed independent of incentives in a randomized controlled trial.

Aventa Centre of Excellence for Women with Addictions

Aventa is an inpatient treatment centre for women, located in Calgary, Alberta, Canada. The facility takes pride in being the province's leader in providing trauma-informed, gender-specific, concurrent capable treatment services for addicted women.

Three phases of treatment are offered: Phase I offers priority admission for women at greater risk who require immediate services; Phase II is a six-week intensive live-in program providing both individual and group therapy; lastly, Phase III is a three-month live-in program for Aventa alumnae that require additional support in their recovery. Alongside their inpatient treatment, Aventa offers the Continuing Care Group (CCG), which is a weekly counsellor-led support and recovery maintenance group open to Aventa Alumnae.

Pilot One

Protocol

The first and only pilot was conducted from December 2018 to July 2019. Client attendance at the CCG was selected as the target behaviour due to lower than anticipated attendance and high attrition rates. Employing Petry's 'fishbowl' model, clients earned weekly opportunities to draw prize slips of varying values for attending the CCG. The slips contained either a positive affirmation or a reward from one of four available prize categories: small, medium, large, and jumbo. Typical prizes included hygiene products and food items for the small prize category, and household items and gift cards (e.g., restaurant and grocery store) for the medium, large, and jumbo prize categories. Management at Aventa requested that the affirmation slips be created from a collection of positive affirmations already used by the program, as opposed to the generic "good job" slips. To start, clients were surveyed to determine the most desirable incentives, with the cabinet being stocked accordingly. The research staff documented which prizes were preferred and purchased those prizes regularly. Purchasing was done when items or the selection was low, approximately once every two weeks.

Clients received one draw for the first group they attended; following the first group, the number of draws increased by one for each consecutive group they attended, up to a maximum of five draws. If the client missed a group and it was not excused (e.g., due to illness, family emergency, pre-scheduled trip), the draw number reset to one upon their return.

Results

Participant Information. Client characteristics are summarized in Table 9. Forty-nine females were in the CM group (*M age* = 33.46, *SD* = 11.27) and 104 in the control (*M age* = 35.72, *SD* = 11.25). In both groups, a majority of clients were Caucasian (81.25% and 69.23% for the CM group and control group, respectively). Although slight differences were observed between the two groups for age and ethnicity, no significant differences emerged.

Table 9

Demographic variables for Aventa Centre's control and CM group

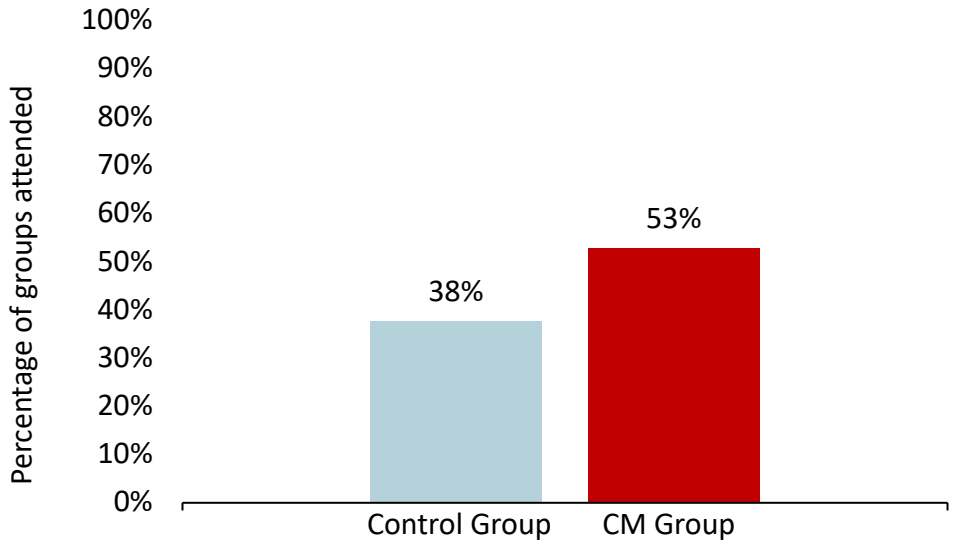
	Contingency Management			
	CM Group (*N* = 49)	**Control Group (*N* = 104)**	**Test**	**P value**
Age	33.46	35.72	1.15	.253
	***N* / %**	***N* / %**	**Test**	**P value**
Ethnicity			8.61	.474
Caucasian	39 / 79.6%	72 / 69.2%		
First Nation	5 / 10.2 %	16 / 15.4%		
Metis	3 / 6.1%	5 / 4.8%		
Other	2 / 4.1%	11 / 10.6%		

Attendance. The number of groups attended was divided by the number of groups clients were advised to attend (i.e., a three-month commitment, translated to 13 sessions). It is important to note that some unique cases affected group attendance (i.e., clients moved, graduated from the program, transferred to a different program, etc.). Specifically, nine clients (18.75%) in the CM group stopped attending for reasons other than simply failing to attend. Therefore, for unique cases, the number of groups they were eligible to attend before their situation changed was used as the denominator. For instance, if a client moved after group six, and attended a total of three groups in that time, they would have attended 50% of the groups.

Attendance rates were higher for the CM group (*M* = 52.83%, *SD* = 32.41) in comparison to the control group (*M* = 37.66%.52, *SD* = 33.41%), *t* (150) = -2.63, *p* = .010 (Figure 5).

Figure 5

Attendance rates for the control group and the CM group at the Aventa Centre.



The value of prizes won. The total value won by those in the CM group was $2,055.00. Clients won a mean of $41.94 worth of prizes (ranging from $0 – $335).

Conclusions

The attendance rate for those in the CM group was 15% higher than attendance in the control group. This finding translates to an increase of two groups attended (of the 13 encouraged) for those who received the CM intervention. These results suggest that the CM protocol incentivized clients to attend more of the CCGs at Aventa. It is also important to note that these results were achieved despite some disruptions with the group including a change of counsellor, change of group dates, and dividing the group into two.

Despite these results, the agency ultimately decided not to proceed with a second pilot due to the cost of the incentives and staff cost involved in implementing CM. As the group was already free to clients, and the counsellor's salary was already a stress on the program's operating budget, the projected $4,110 annual cost of incentives was not considered feasible. This observation also highlights a cost associated with CM that past literature has failed to recognize, counsellor salary costs related to the increased workload to administer CM. Anecdotally, the

counsellor leading the CCG reported that the CM protocol increased her workload by 30 minutes to one hour per group (i.e., depending on the number of clients in attendance; 1 hour for a group of 26 attendees), translating to an additional 2-4 hours a month. Thus, this experience highlighted that the CM protocol needed to be adjusted to increase feasibility and decrease administration time. The Suggestions and Recommendations section below provides more information concerning strategies to decrease counsellor workload and CM administration time.

Alberta Health Services (AHS) – Adult Addictions Services

Calgary's Adult Addiction Services is an AHS program that provides non-medical treatment to those experiencing addiction. The facility offers short-term outpatient treatment, a four-week intensive day treatment program, as well as educational, skill, and support groups.

One example of an AHS support and educational group is the 12 week TEE Time group (TEE stands for talk, engage, and explore).The group uses a harm-reduction model that provides information and support on substance use and mental health. The group's objective is to support clients in reaching their goals while encouraging a healthier lifestyle. The topics discussed are outlined in Table 10.

Table 10

Topics discussed in each of the TEE Time sessions

Addiction	Thinking about Change	Safety	Stress
Triggers	Boredom	Anger	Depression
Anxiety	Guilt and Shame	Boundaries	Quitting Smoking

Although the group has 12 session topics, it is an ongoing and open group in which individuals can join at any time and continue to participate following graduation from the group.

Pilot One

Protocol

The first pilot was conducted from January 2019 to July 2019. Management and counsellors at AHS chose to focus on client attendance at the TEE Time group as the group had lower than anticipated attendance rates and high attrition rates. In addition to these reasons, management stressed that this group was often the individuals' first point of contact with AHS Addiction services given the group's no-barrier, harm-reduction approach. Therefore, increased TEE Time attendance might encourage individuals to seek additional abstinence-based programming

offered through AHS. The rationale for choosing this group also addressed client needs in that individuals attending this group may benefit from the incentives due to having lower incomes.

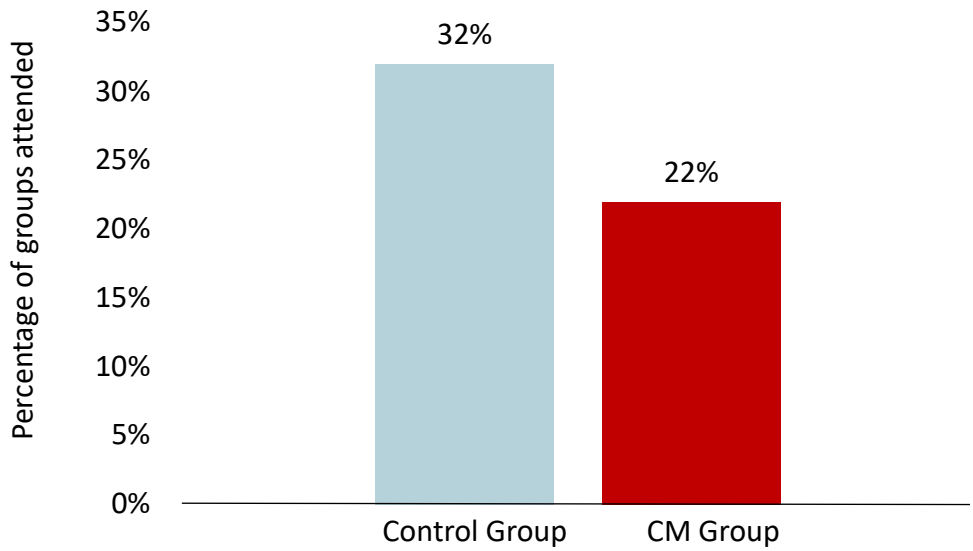
Using Petry's prize bowl method and onsite prize distribution model, clients earned prize draw slips for their weekly attendance at the TEE-Time group, similar to the protocol at Aventa. Likewise, the client incentive survey results paralleled Aventa's, with hygiene products and food items being the most desired small prizes, and household items and gift cards (e.g., restaurant and grocery store) being the most desired medium, large, and jumbo incentives. The only protocol difference between Aventa and AHS concerned the affirmations used, in that AHS elected to use the generic 'good job' prize affirmation as opposed to positive quotes. As this was an open, no barriers group, demographic data from those in attendance was not collected and cannot be compared.

Results

Attendance. As the specific referral date was not available, the percentage of groups attended was calculated following participants' first group exposure for the control and CM groups. For example, if a participant first attended the group on the seventh session (of the twelve sessions) and attended three sessions following this, the participant would have attended 3 out of 5 or 60% of the group sessions.Attendance rates were lower for the CM group (M = 21.53, SD =26.57) in comparison to the control group (M = 31.89, SD =30.04), $t(85) = 2.48$, p =.119 (Figure 6).

Figure 6

Attendance rates for the control group and the first pilot CM group at the TEE Time group.



Conclusions

These results reveal that the mean percentage of groups attended for the control group (32%) was higher than for the CM group (22%), suggesting that the CM intervention was not associated with increased group attendance. AHS management and the group counsellors speculate that this finding may have been because the group itself was relatively new and, therefore, clients' knowledge of and experience with the group may be limited. Counsellors noted several anecdotal findings that spoke to the efficacy of CM's implementation. Consequently, a second CM implementation pilot was designed to increase attendance at the TEE Time group. Upon further analysis, the data suggested that only receiving a 'good job' or a 'small' prize within the first days of CM exposure may have dissuaded many clients from returning. Eighteen percent of clients at this program earned a maximum dollar amount of only $1.25 (one small prize) or less (good job), and the mean amount by clients at this program was significantly less (*M* = $16.09) than the other programs (Fresh Start pilot one *M* = $99 and pilot two *M* = $198.66; Aventa *M* = $41.94). An alternative incentive protocol was developed for the second pilot at this program to control for low rates of reinforcement in the initial stages of exposure.

Pilot Two

Protocol

The second pilot was conducted from December 2019 to March 2020. The protocol of the second pilot paralleled that of the first pilot, with the only change being the inclusion of clients receiving a $5 gift card (a protocol modification referred to as a primer; Petry, 2013) in addition to regularly received draw slip for their first group attendance. Afterwards, clients continued to receive the standard number of allotted draw slips (i.e., second consecutive attendance received two draw slips, third received three, to a maximum of five). As a recommended way to increase reinforcement rates early in initial exposure to CM (Petry, 2013), we speculated that the inclusion of an immediate and guaranteed incentive upon first attendance would increase the likelihood of continued attendance.

Results

Attendance. As demographic data, including a specific referral date, was not collected, the percentage of groups attended was again computed following participants' first group exposure.

Although not statistically significant, $F(2, 122) = 1.98$, $p = .142$, attendance rates for individuals in the second pilot group ($M = 32.04$, $SD = 33.08$) were higher than the attendance rates for those in the first pilot ($M = 21.53$, $SD = 26.57$) and the control group ($M = 31.89$, $SD = 30.04$). Figure 7

illustrates the percentages of groups attended for each group and Figure 8 illustrates the number of attendees for each session.

Figure 7

Attendance rates for the control group, first pilot and second pilot CM group at the TEE Time group.

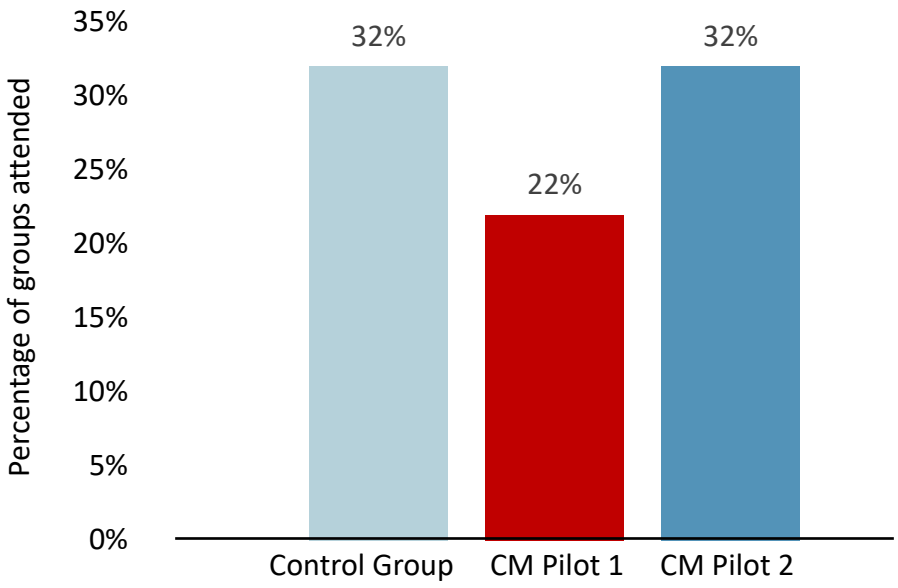
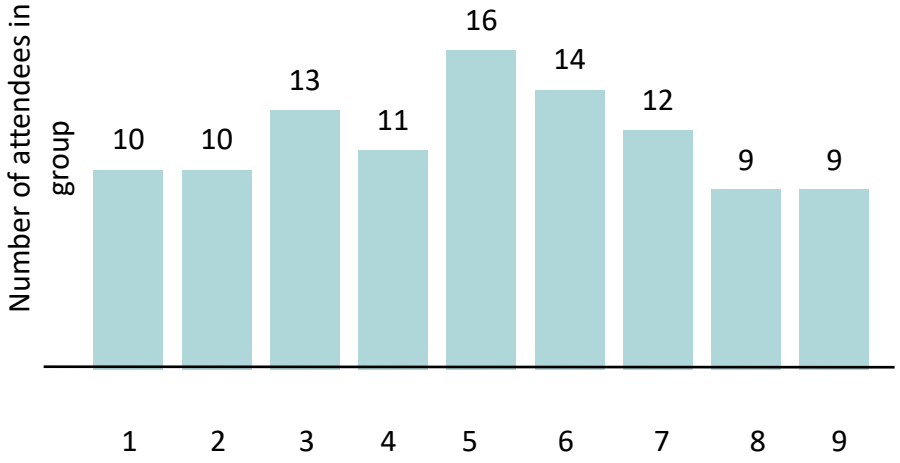


Figure 8

The number of attendees for each of the group sessions in the TEE Time group's second pilot CM group.



The value of prizes won. The total value won by those in the CM group was $702.00. Clients won a mean of $18.47 worth of prizes (ranging from $0 – $63.00).

Conclusions

The mean percentage of groups attended for the second pilot and the control group was the same (32%) and both were higher than the percentage of groups attended first CM implementation pilot (22%). Although the second pilot results were higher than the first pilot, this difference was not statistically significant. Furthermore, the second pilot and control group attendance comparison suggests that the CM intervention was not associated with an increase in group attendance.

Anecdotally, the counsellors reported that clients were grateful for the $5 gift card received for their first attendance. These subjective reports and the increased attendance from the first pilot suggest that the rewards received incentivized the clients to some extent. However, the average amounts won and attendance rates were still lower than expected. One explanation postulated by the counsellors was a particular event that took place in the group. Following this event during the sixth session, there was a steady decline in the number of attendees which could account for the low attendance rates. Unfortunately, this group block was cancelled before the final session due to the COVID-19 pandemic, decreasing the number of available attendance dates to 10.

It is possible that the magnitude of the primer was insufficient to incentivize continued attendance. An example of past research using a priming method provided participants with a large prize for the first two consecutive weeks of abstinence (Petry et al., 2005). With this example in mind, a large prize (i.e., $20) may have been a more appropriate magnitude to control for low reinforcement rates. Furthermore, the delivery of the primer at clients' first attendance may not have been an effective strategy in that the primer did not incentivize continued attendance. Therefore, it is recommended that clients not be rewarded with the primer until their second consecutive group attendance.

AHS – Adolescent Program

The adolescent program is an AHS program located at Calgary's Foothills Medical Centre which provides psychiatric and therapeutic interventions for adolescents diagnosed with substance use disorder and concurrent mental health concerns. Although this report will discuss findings from this site, recruitment is ongoing, and this is a preliminary analysis only.

Preliminary Findings

Protocol

Participants were enrolled between February 2018 and October 2019. Utilizing a RCT design, 62 adolescents were randomized to receive either CM + TAU or TAU. Participants randomized to receive the CM + TAU intervention were asked to complete weekly immediate-read UDS and verbally disclose any substance use in the previous seven days to either a research assistant or their clinician. If the UDS was negative for substance use and no substance use was verbally disclosed, participants had the opportunity to earn both gift cards and prize draws. A weekly tracker form was used to record attendance to the appointment, the results of the UDS, any report of substance use disclosure, and prizes given out, where applicable. Participants randomized to TAU received the same protocol, with the exception of the opportunity to earn prizes.

Sample

Participants were recruited from a sample of adolescent patients who were newly referred and receiving outpatient care at the treatment centre for the duration of the study. Inclusion criteria included: (1) currently attending the adolescent treatment program, (2) presented with a SUD as their primary concern, and (3) planned to attend weekly sessions for the first 12 weeks of treatment. Patients were ineligible to participate if they presented with a behavioural addiction (e.g., gaming or gambling). For participants aged 18 and older at the time of enrolment, a consent form was signed. If under the age of 18 but considered a mature minor by the law, the patient could consent alone to participate in the study; however, consent was generally requested from guardians as well. If under 18 and not considered to be a mature minor, both consent from the guardian and assent from the patient was obtained to participate. A copy of both forms was given to the guardian and participant. Sixty-two participants were enrolled and randomized to the experimental or the control group.

Measures

At baseline and after 12-weeks of treatment, participants in both the CM and TAU conditions were administered various mental health and substance use measures. For the purpose of this report, two measures will be described: the demographics questionnaire and the weekly attendance and substance use tracker.

Demographics. At baseline, a demographics questionnaire was completed by all participants. It asked about participants' clinical history and included information such as reported ethnicity,

current school attendance status, family status, and history of mental health or addiction treatment. For this report, only the variables of age, sex, and ethnicity will be discussed.

Weekly attendance and substance use tracker. This measure was used for all clinicians/research assistants to record data. Outcomes for the following variables were recorded on the weekly tracker and analyzed: total sessions attended, unexcused absences, excused absences, average number of drug using days per week, percentage of substance using weeks per weeks reported during the study, and total amount of negative UDS completed. For those in the CM group, an additional section on the weekly tracker was used to record the disbursement of any gift cards and prize draws. The total number of gift cards and prize draws accumulated in previous weeks and the current week were also recorded.

Conditions

Participants in both the TAU and CM groups participated in a 12-week intervention consisting of weekly individual and family therapy as well as weekly immediate-read urinalysis. Measures related to substance use were collected at the initial assessment at baseline and at 3- months for the current report.

Experimental Condition (CM+TAU). At each weekly appointment, an immediate-read UDS was administered. The results of the UDS were interpreted by a clinician or RA. If completed by an RA, they would briefly meet with the participant prior to their therapy session. Participants were asked to self-disclose any substance use during the previous seven days. If the UDS was negative for substance use and the participant reported no substance use, they earned gift cards and prize draws. A receipt paper was given to the participant, reminding them how much they earned in the current week and outlining how much they would be eligible to earn in the upcoming week if they remained abstinent. If the UDS was positive for substance use and/or the participant disclosed substance use in the previous week, no gift cards or prize draws were administered. In this case, a receipt was given that outlined what contingencies could be earned at the next appointment if they remained abstinent in the upcoming week. The results of the UDS and self-report were shared between the RA and clinician prior to the beginning of the therapy session.

In week one, CM participants were eligible to earn $5 at their initial assessment for completing a UDS, regardless of the results. In week two, participants were eligible to earn $5 if they reported no use and their UDS was negative for substance use, with the exception of cannabis. With heavy use, cannabis can remain detectable in the urine for two weeks or longer, so this acted as a "wash-out" period. Similar protocol has been followed in previous CM studies (e.g., Stanger et al., 2009). In weeks three through 12, participants were provided a $5 contingency if they

reported no substance use in the past week and submitted a negative UDS. An additional $5 was provided for any two-consecutive negative UDS results and no reported use. With the third consecutive negative UDS and no reported use, participants were eligible to begin to earn escalating prize draws. One prize draw was earned for the third consecutive negative UDS and for each additional consecutive week of being substance-free, participants could earn an additional prize draw, up to a maximum of eight prize draws in the given week. If a participant tested positive for substance use, self-reported use, or had an unexcused absence to an appointment, the prize schedule was reset back to a $5 gift card and zero prize draws for the next negative UDS result. If a participant had an excused absence (e.g., a planned vacation), they were not eligible to earn contingencies for that week, however, the prize schedule was not reset.

The prize draw "fishbowl" consisted of 500 slips. The following prize draw ratios were modelled after Petry's (2012) recommendations: 250 "good jobs" (no prize value associated), 209 small prizes valued at $1 each, 40 large prizes valued at $20 dollars each and one jumbo prize valued at $100. If all UDS were negative and a participant did not self-report any substance use over the 12-week intervention, 52 prize draws and $110 in gift cards could be earned. The average cost for one client who remained abstinent for the duration of the intervention was estimated to be $225.

Control Condition (TAU). Participants randomized to the control condition received the same protocol as the experimental condition, with the exception of the opportunity to earn contingencies. They were also administered immediate-read UDS and met with their clinician or an RA to disclose any substance use over the previous week. If they met with an RA, this information was then shared with the clinician on their case.

Sample Size Estimation

The sample size estimation was obtained using a Multivariate Analysis of Variance (repeated measures, within-between interactions), assuming an alpha of 0.05, a power value of 0.95, and an effect size of d =.42. For an RCT with 2 groups, the *a priori* sample size was estimated at 76 participants, with 38 participants per group. Based on this estimation, we aimed to recruit 90 participants total, with 45 participants per group.

Statistical Analyses

Frequencies and mean scores were analyzed for age, gender, and ethnicity. Independent samples *t*-tests (to examine age) and a non-parametric test, Pearson's Chi-Square (to examine gender and ethnicity) were used to compare between-group differences of these factors to ensure that conditions were equal before the commencement of the intervention. Pearson's Chi-Square was used to assess any differences in alcohol, cannabis or other illicit substance use in the seven days

prior to their first day in the study. Independent samples *t*-tests were used to compare average scores on the DSM criteria for both alcohol use disorder and cannabis use disorder. The two groups were compared for potential differences in treatment attendance rates and substance use (e.g., total number of sessions attended over 12 weeks, number of negative UDS results). Analysis of these variables was done with independent samples *t*-tests.

Results

Sixty-two participants were enrolled and randomly assigned to receive either the CM intervention (n = 32) or TAU (n = 30). Nine participants in the CM condition and nine participants in the TAU condition withdrew from treatment at the outpatient program, rendering them ineligible to continue participation in the study.

Descriptive Statistics. Twenty-three participants in the CM condition and 21 participants in the TAU condition completed the three-month post-treatment measures. The mean age of participants was 16 for both those in the CM condition (SD = 1.51) and the TAU condition (SD = 0.97). For those in the CM condition and the TAU condition, a majority of participants were female (n = 21/ 65.63% and n = 16/ 53.33%, respectively). The two groups did not significantly differ in composition based on demographic information.

Primary Analysis. Independent samples t-tests were used for the primary analysis to examine treatment attendance and substance use between treatment conditions. The 32 participants who received the CM intervention attended a comparable amount of appointments during the intervention period (M = 7.44, SD = 3.64) compared to those who received TAU alone (M = 7.37, SD = 3.94), $t(60) = -0.07$, $p = 0.94$. There was no significant difference in unexcused absences or unexpected no shows to appointments, $t(60) = 0.33$, $p = 0.75$, with participants in the CM intervention averaging 2.41 (SD = 2.38) unexcused or unplanned absences and participants in the TAU group averaging 2.60 (SD = 2.33) unexcused or unplanned absences. During the intervention, 9 participants from each condition withdrew from treatment, subsequently rendering them unable to continue participation in the study.

Participants who received the CM intervention reported a smaller proportion of substance- using days per weeks reported (M = 66.3, SD = 37.3) in comparison to TAU (M = 73.9, SD = 38.0); however, this difference between the groups was not statistically significant, $t(56) = 0.77$, $p = 0.45$. There was no statistically significant difference between groups for the number of negative UDS results, $t(60) = -0.59$, $p = 0.56$, although those in the CM group averaged a higher number of negative UDS results (M = 2.19, SD = 3.06) in comparison to those who received TAU alone (M = 1.73, SD = 3.02). Finally, participants who received CM also submitted a lower percentage of

positive and missed UDS (M = 77.4, SD = 31.6) in comparison to TAU (M = 85.1, SD = 26.8); however, this difference was not statistically significant, $t(60) = 1.03$, $p = 0.31$.

Value of earnings. On average, participants earned $29.28 and 3 prize draws over the entire twelve-week intervention, with a large amount of variability. Approximately half of the participants who received the CM intervention did not earn any contingencies past the initial $5 given for submitting a UDS during their first week in the study, and 75% did not achieve two weeks of consecutive abstinence to be able to earn prize draws.

Conclusions

These preliminary findings revealed that receiving CM during usual outpatient care for concurrent disorder treatment did not significantly lead to increased treatment attendance over the study duration nor did it result in a significant increase in abstinence rates or fewer substance-using days. Withdrawal from the study due to leaving the treatment centre was equal across both conditions, indicating that participating in the CM intervention did not motivate adolescents to remain in treatment for longer periods of time. These results contrast a majority of previously published findings that found CM to be an efficacious treatment for encouraging higher abstinence rates and treatment attendance in adolescent populations (Branson et al., 2012; Godley et al., 2014; Krishnan-Sarin et al., 2006; Stanger et al., 2009; Stanger et al., 2015; Stanger et al., 2017; Stewart et al., 2015); however, our findings may have diverged from the norm due to issues with study design and power.

Various aspects of the study design used in the current project differed from interventions implemented in adolescent populations that found significant effects. The current study implemented a low-cost protocol, as such, it is possible that the monetary value of the contingencies was not high enough to compete with the reinforcing properties of substance use. Past studies that found CM effective in reducing substance use in adolescent patients (Stanger et al., 2015; Stanger et al., 2017) reinforced participants at a much higher monetary value, with adolescents earning between $170.55 ($SD$ = 167.26) and $337.32 ($SD$ = 231.98) over twelve weeks. However, adolescent participants in Stanger et al. (2009) earned $22.88 per week on average, an amount almost equivalent to what participants in the current study earned over the entire intervention.

Another element that may have impacted the success of the current intervention is the reinforcement schedule, and the criteria that was required to earn a contingency. Petry (2012) advises that the target behavioural change should be monitored at minimum once a week, however, this may not have been frequently enough in a complex, concurrent disorders sample

such as the one in the current study. Conversely, studies completed by Stanger and colleagues tested for substance use twice weekly and offered additional chances for reinforcement outside of therapy through a home-based CM protocol implemented by parents (Stanger et al., 2009; Stanger et al., 2015; Stanger et al., 2017).

Regarding contingency criteria, participants in the current study were only eligible to earn contingencies if they were completely abstinence from all substance use; yet, this may not have been the primary treatment goal for some adolescents. Over half of the participants in the CM condition were never abstinent from substance use, reflecting that the opportunity to earn a contingency was not highly influential. Implementing a study design that first reinforces basic treatment goals, such as attendance, and then transitions to reinforcing complex goals, such as abstinence, may be more effective in targeting adolescents who are not focused on changing their substance use behaviours at the outset of treatment.

The use of parental involvement and participation in adolescent therapy and CM interventions has led to positive outcomes among adolescent samples such as reducing their substance use and achieving longer continuous periods of abstinence (Kamon, Budney, & Stanger, 2005; Stanger et al., 2009; Stanger et al., 2015; & Stanger et al., 2017). Involving parents may have strengthened the study design by adding an additional source of accountability for the participants outside of the once weekly UDS; albeit, the inclusion of parental involvement would have also increased the complexity of the intervention.

Issues associated with power may also have contributed to the intervention's lack of effect. As indicated by the initial power analysis, a minimum of 76 participants were needed to detect a medium effect. It is possible that the average effect size associated with these interventions does not directly translate to interventions designed for adolescents who are earning low value contingencies. Therefore, a larger sample size of adolescents may be needed to detect the effect.

Although there are various benefits associated with the use of low-value contingencies, such as feasibility in a public healthcare setting, the current study highlights that further research is needed to investigate how best to balance keeping costs low while also sufficiently motivating adolescents to change their substance use behaviour. Future research may also focus on testing more individualized and flexible implementation designs of CM which targets and reinforces a variety of individually set treatment goals in addition to reducing substance use.

Comparing Staff and Clients' Beliefs about CM

As noted earlier, research examining clinician attitudes towards CM cite philosophical incongruity and practical concerns as the main reasons for their hesitation towards implementing CM (Kirby et al.,, 2006; Petry, 2012; Rash et al., 2012). While research on clinician attitudes towards CM may help explain the lack of CM application, research has yet to fully consider the perspective of the client. To date, the relationship between treatment provider attitudes towards CM and the attitudes of clients exposed to CM has not been examined. Therefore, a secondary aim of Phase II was to compare staff and client beliefs about CM.

Method

Participants and Procedure

Following exposure to CM, clients participating in Phase II were given the opportunity to complete a brief survey regarding their beliefs about CM. To ensure adequate exposure to CM, clients participating in the outpatient programs were assessed after a minimum of six exposures (i.e., half of 12 group sessions), whereas clients participating in the inpatient programs were assessed after 10 exposures (i.e., after their final assessment). The difference in the required length of exposure between groups was due to differences in the protocol and treatment setting (i.e., inpatient vs outpatient). While regular attendance was a requirement of the inpatient program, this was not a requirement of the individuals participating in the outpatient programs. Likewise, the attendance of those participating in the outpatient programs was more commonly influenced by situations uncommon to that of clients participating in inpatient programs (e.g., switching to a different treatment group, moving out of the city, medical appointments, etc.). Therefore, individuals in the outpatient programs were given more opportunities to complete the survey. Nonetheless, differences in length of CM exposure did not result in any significant response differences.

The staff data collected in Phase I were used to compare client beliefs to staff beliefs about CM. Clients were provided with a modified version of the survey administered to staff to improve the relevancy of the questionnaire items to their experience as a client exposed to CM.

Measures

Demographic questionnaire. Client demographic information was obtained using a self-report questionnaire that included questions about age, gender, education, employment status, gross household income, marital status, ethnicity, and presenting addiction issues. The questions were derived from previously utilized lab-based questionnaires.

CM beliefs questionnaire. On the questionnaire page preceding the CM beliefs items, a definition of CM and a brief description of the CM protocol implemented at their respective programs was provided to serve as a reminder for questions referencing CM, as clients may have been unaware of the formal name of the program. A copy of the CM Beliefs Questionnaire is contained in Appendix A. Items from the pro-CM and general barriers subscales from the Contingency Management Beliefs Questionnaire (CMBQ; Rash et al., 2012) relevant to both staff and clients were retained. Items such as '*CM is expensive (e.g., cost of prizes,* vouchers)' were excluded as clients could not be expected to have insight into implementation factors. Similarly, the original questionnaire's training barriers subscale was not retained as it was not relevant to the client perspective. Responses were given on a 5-point Likert scale with the following answer choices: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree).

Clients were also asked questions specific to their CM experience including 1) '*How helpful did you find Contingency Management?',* 2) '*How much did you like the incentives offered?', and)* 3) '*Having completed Contingency Management, how confident do you feel in (Insert Program Specific Goal) continuing to come to group/ achieving your goals/ maintaining or achieving abstinence)?'.* Responses were given on a 5-point Likert scale with response options of 1 (not at all), 2 (slightly), 3 (neutral), 4 (very) and 5 (extremely).

Lastly, clients were asked a set of three open-ended questions: 1) '*What was the best or the most useful part of Contingency Management and why?',* 2) '*What was the worst or least useful part of Contingency Management and why?', and* 3) *Do you have any other comments or suggestions about how we can improve Contingency Management?'.*

Results

Participant Information. The staff sample was comprised of 47 staff, a majority of whom were counsellors (66%) or management (28%). Since staff data were collected as per the Phase I protocol, no additional demographic data was collected for staff. The client sample was comprised of 30 individuals (70% men) with an average age of 38 years (*SD* = 11.71). The majority of clients surveyed were Caucasian, single (never legally married), unemployed, and had a high school education. The most commonly reported addiction was alcohol (81%), followed by cocaine and crack cocaine (52%), and tobacco (41%). The mean behaviour completion percentage (i.e., attendance or goal completion) for clients who completed the survey was 85% (*SD* = 22.7%) and 30% (*SD* = 31.3%) for those who did not complete the survey. See Table 11 for demographic variables.

CMBQ. With respect to the CMBQ subscales, there were no significant differences between staff (*M* = 3.80 *SD* = 0.45) and client (*M* = 3.61 *SD* = 0.80) scores on the Pro CM subscale *t*(76) = 1.22, *p* = .231. Client scores (*M* = 2.01 *SD* = 0.66) were, however, significantly lower than staff scores (*M* = 2.50 *SD* = 0.55) on the General Barriers subscale, *t*(76) = 3.39, *p* = .001. In examining the individual items that make up the General Barriers subscale, four items explained this significant difference.

As seen in Table 12, clients largely disagreed that the eventual withdrawal of contingencies was problematic, compared with staff who had more neutral scores (Figure 9). In fact, 65% of clients disagreed (to strongly disagreed) with this concern, while only 39% of staff expressed disagreement (to strong disagreement) that this should be a concern. For the item asking if CM is patronizing, 72% of clients strongly disagreed that CM was patronizing, while only 30% of staff expressed strong disagreement (Figure 10). With respect to the item suggesting that CM would cause arguments among clients (Figure 11), clients had significantly lower scores, with 63% reporting strong disagreement, while staff scores were neutral, with only 6% reporting strong disagreement. Additionally, clients more strongly disagreed that they sold or traded earned items for drugs (91%), whereas staff scores were more neutral, with only 6% reporting strong disagreement (Figure 12).

CM Specific Questions. Client mean score for 'how helpful did you find Contingency Management' suggests that clients found it very helpful (*M* = 3.9, *SD* = 1.06). In fact, 67% reported that the intervention was very to extremely helpful (Figure 13). When asked 'how much did you like the incentives offered', 85% of clients reported being very to extremely satisfied (*M* = 4.3, *SD* = 0.91; Figure 14). Lastly, when asked 'having completed Contingency Management, how confident do you feel in their ability to complete [the CM targeted behaviour], 75% of clients reported being very to extremely confident that they would continue engaging in the targeted behaviour following completion of CM (M = 4.1, *SD* = 0.92; Figure 15).

CM Open-ended Questions. The most common themes and examples of client responses for the best thing about CM, the worst thing about CM, and comments and suggestions to improve CM are provided in Tables 13, 14, and 15, respectively. When asked what the best thing about CM was, themes of treatment engagement and incentives emerged. Clients reported the themes of CM protocol, other clients, and the incentives as the worst parts of CM. Themes extracted from the question asking for comments or suggestions to improve CM included CM implementation and incentives.

Table 11

Demographic variables of those who completed the client CM beliefs survey

Demographic Variable		N / %
Gender	*Male*	21 / 70%
	Female	9 / 30%
Ethnicity	*Caucasian*	4 / 13.3%
	Indigenous	15 / 83.3%
	Mixed Race	1 / 3.3%
Marital Status	*Single (Never Married)*	18 / 60.0%
	Legally Married and Not Separated	3 / 10.0%
	Common-law	4 / 13.3%
	Separated but Still Legally Married	1 / 3.3%
	Divorced	2 / 6.7%
	Widow	2 / 6.7%
Education	*No Degree, Certificate, Diploma or Degree*	5 / 16.7%
	High School Diploma or Equivalent	12 / 40.0%
	Trades / Apprenticeship Certificate or Diploma	5 / 16.7%
	College / Other Certificate or Diploma	4 / 13.3%
	University Degree, Certificate or Diploma below BA	1 / 3.3%
	Bachelors	2 / 6.7%
	Masters	1 / 3.3%
Employment	*Fulltime*	9 / 30.0%
	Part time	1 / 3.3%
	Unemployed	15 / 50.0%
	Retired	1 / 3.3%
	Maternity Leave	3 / 10.0%
	Disability Leave	1 / 3.3%
Presenting Addiction Issue	*Alcohol*	22 / 81.5%
	Anti-Anxiety Medications	4 / 14.8%
	Anti-Depressants Medications	2 / 7.4%
	Anti-Psychotic Medications	2 / 7.4%
	Behavioural Addictions	7 / 25.9%
	Cannabis	10 / 37.0%
	Cocaine/ Crack	14 / 51.9%
	Hallucinogens	4 / 14.8%
	Opioid Medications	8 / 29.6%
	Opioids Illicit	8 / 29.6%
	Inhalants	0 / 0.0%
	MDMA	6 / 22.2%
	Methamphetamine	10 / 37%
	Mood Stabilizing Medication	2 / 7.4%
	Stimulant Medications	2 / 7.4%
	Tobacco	11 / 40.7%

Table 12

Items from the CMBQ's General Barriers Subscale of the staff and clients' CM belief questionnaire

General Barrier Item	Staff (N = 47) M (SD)	Client (N = 47) M (SD)	Test	df	p value
Worries about what happens once the contingencies are withdrawn	2.94 (1.11)	2.19 (1.44)	2.28	71	**.028**
Clients selling/ trading earned items for drugs	2.64 (1.22)	1.30 (1.02)	4.81	68	**<.001**
Providing prizes/vouchers undermines internal motivation to stay sober	2.26 (1.07)	2.04 (1.27)	0.75	69	.484
Contingency Management doesn't address the underlying cause of addiction	3.19 (1.12)	3.11 (1.48)	0.25	72	.807
It is not right to give rewards for [program specific behaviour targeted] if clients are not meeting other treatment goals (e.g., group attendance)	2.11 (0.88)	1.84 (1.03)	1.11	69	.274
Contingency Management causing arguments among clients (e.g., when some get prizes and others do not)	3.09 (1.12)	1.48 (0.75)	7.35	72	**<.001**
Clients viewing Contingency Management as patronizing	1.93 (0.74)	1.48 (0.82)	2.30	69	**.026**
The community won't understand (i.e., the clinic will look bad for giving rewards to substance abusers)	2.29 (0.87)	2.32 (1.32)	-0.09	65	.925
Contingency Management is distasteful because it is basically paying someone to do what they should do already	1.70 (0.87)	2.33 (1.52)	-1.99	71	.053

Figure 9

Staff and client responses to the CMBQ item regarding 'worries about what happens once the contingencies are withdrawn

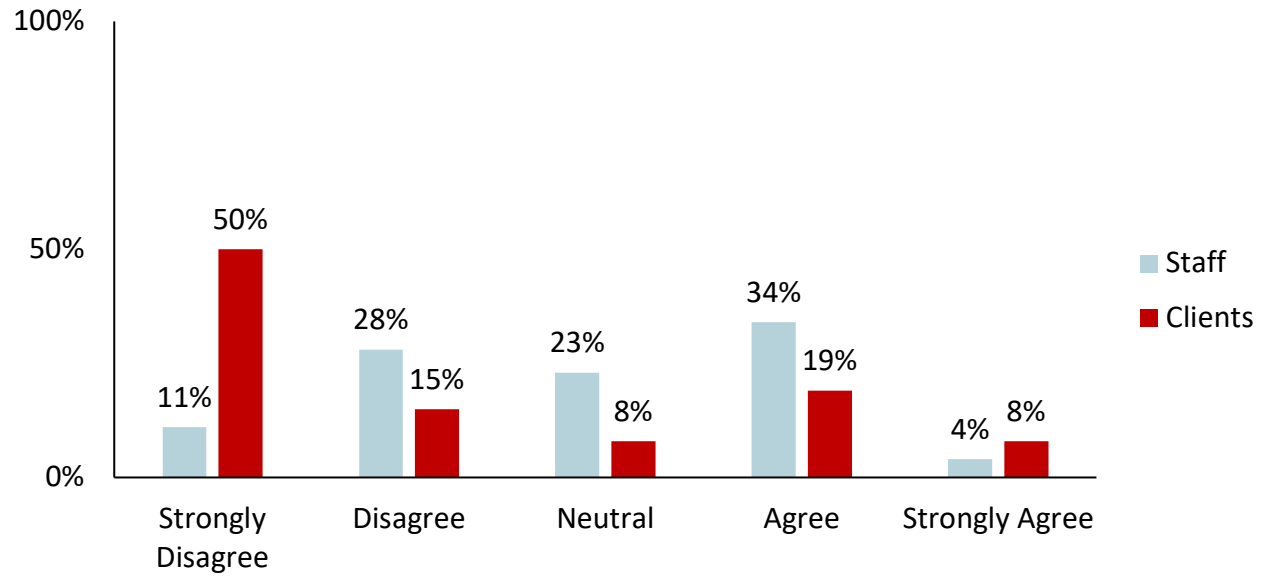


Figure 10

Staff and client responses to the CMBQ item regarding 'clients viewing CM as patronizing'

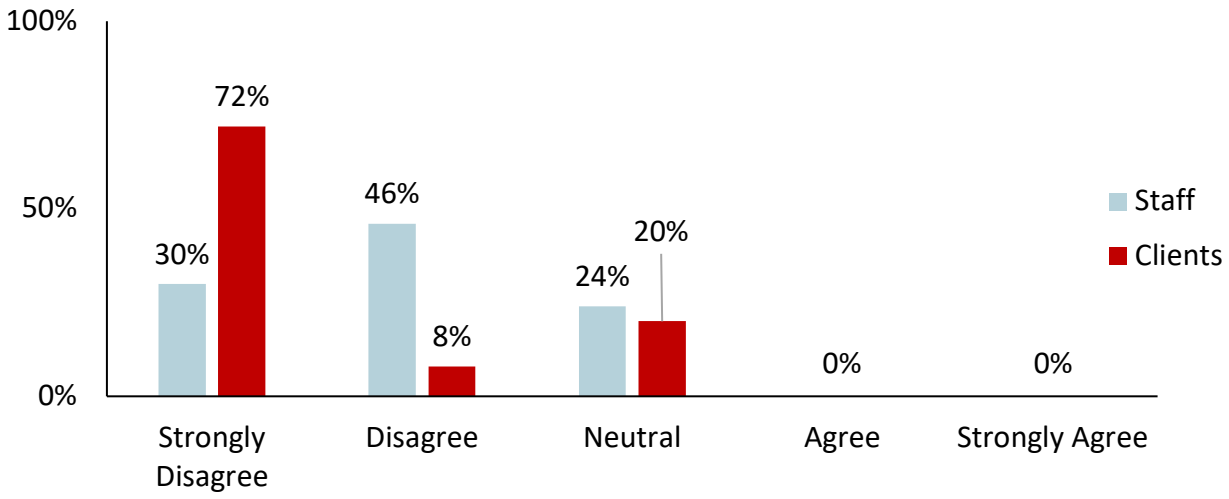


Figure 11

Staff and client responses to the CMBQ item regarding 'CM causing arguments among clients'

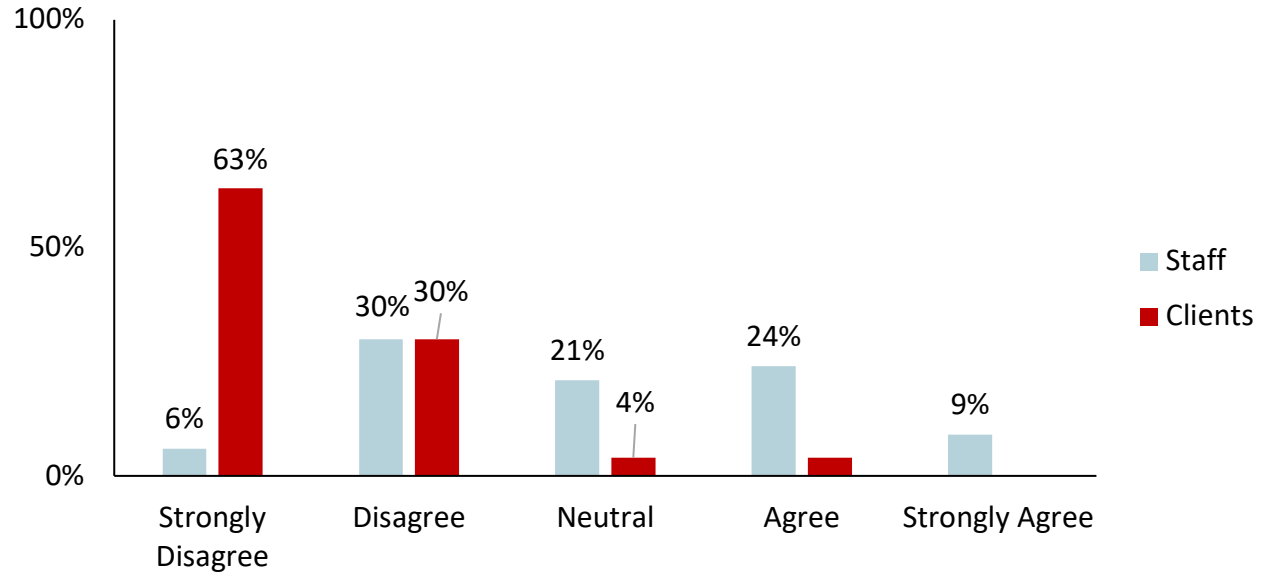


Figure 12

Staff and client responses to the CMBQ item regarding 'clients selling/ trading earned items for drugs'

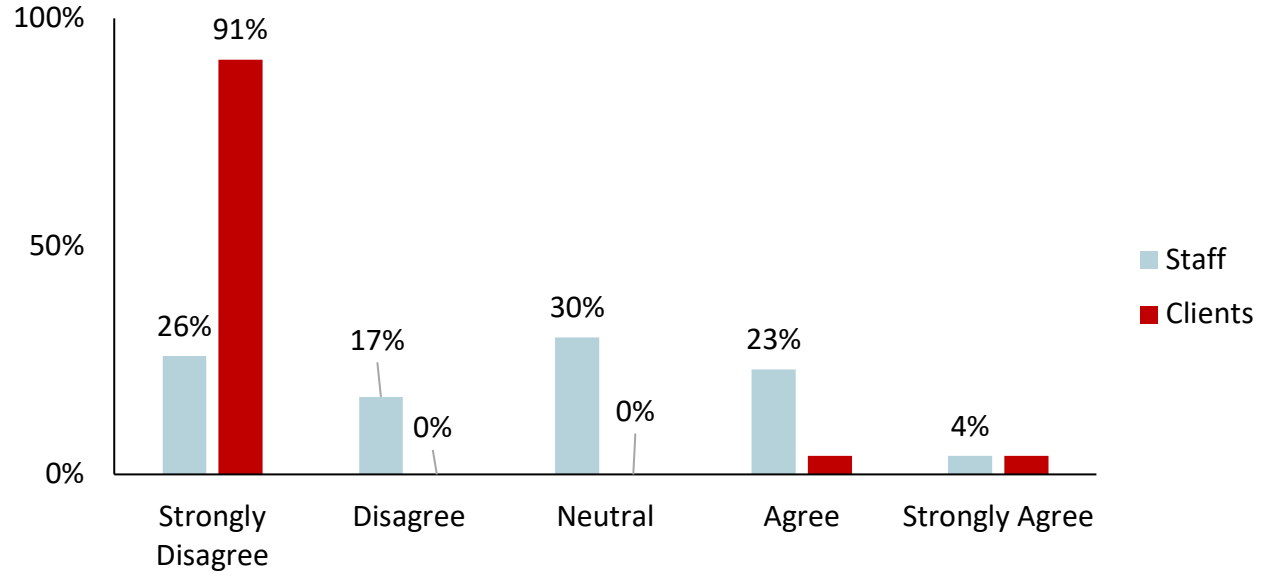


Figure 13

Client responses to 'how helpful did you find Contingency Management?'

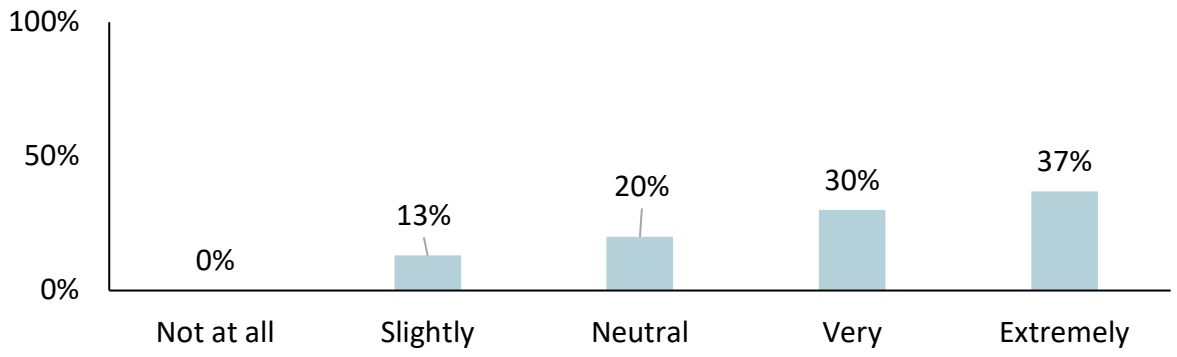


Figure 14

Client responses to 'how much did you like the incentives offered?'

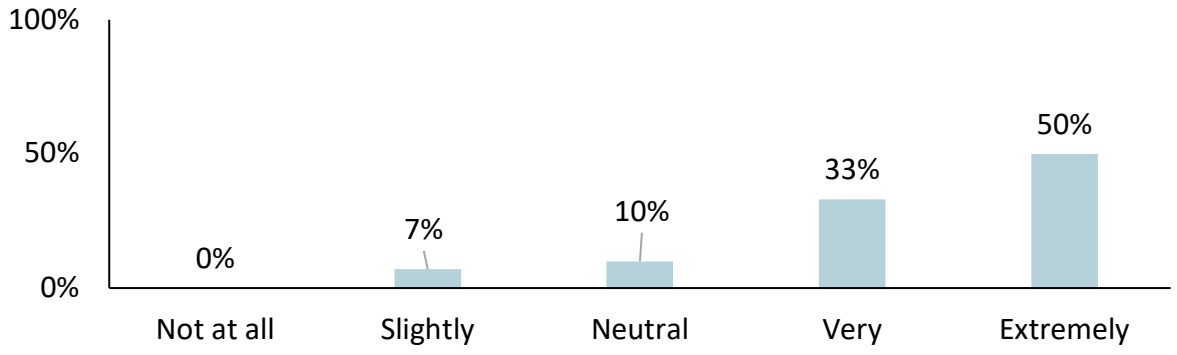


Figure 15

Client responses to 'having completed Contingency Management, how confident do you feel in your ability to complete [the CM targeted behaviour]?'

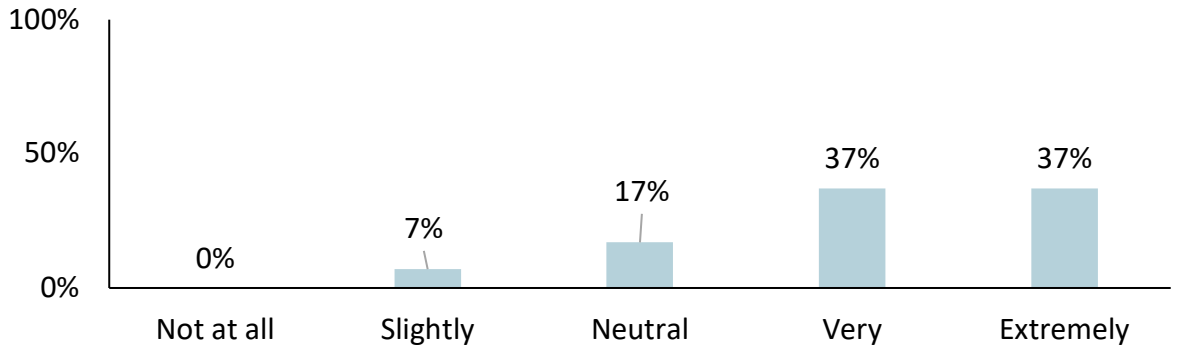


Table 13

Themes, subthemes and client responses for the best thing about CM

Category	Themes	Subtheme	Response Examples
Best Thing about CM	Treatment Engagement	Comradery and Encouragement	• *"Fun we had in groups together"* • *"The group participation. The process helped bring the group together"* • *"Involvement of other group members, seeing their excitement."* • *"Favorite part was members of the group encouraging each other to attend consistently to rack up prizes. This showed in the feeling of comradery when we were drawing for and picking our prizes. Why? another way for us to build a sense of unity."* • *"It gave me a push to learn something new. I enjoyed it."*
		Progress	• *"When I set a goal for myself and had a routine daily, kept me connected."* • *"Working and completing my goals."* • *"Seeing finished product."*
	Incentives	Helped buy needed items	• *"I was able to buy things for my second phase apartment to help me in the future."* • *"It helped me buy groceries."*
		Prize options and anticipation	• *"Sweet treats, Walmart gift card."* • *"Money and gift cards"* • *"It gave me something to look forward to."* • *Something as an unexpected reward* • *"Knowing I could possibly win something at the end is the cherry on top. Even if I pick slips of paper that say "good job" I will be happy!"* • *"Sometimes it felt good to leave group and go home with a nice gift or prize."*
		Incentives received for effort	• *"Being rewarded for achieving my life goals."* • *"I think it helps me out to receive something nice for my time."* • *"Receiving rewards for our work, having fun."*

Table 14

Themes, subthemes and client responses for the worst thing about CM

Category	Themes	Subtheme	Response Examples
Worst Thing about CM	CM Protocol	Prize Slip Ratio	• *"All the good jobs were disheartening and even though we completed our goals many of us got nothing for prizes because we pulled "good job" cards."* • *"Getting so many good jobs"* • *"Not enough [jumbo prize slips]."*
		Time - for draws, paperwork, and receiving prizes	• *"Staying for a long time when you got stuff to do."* • *"The sheets of paper we had to fill out."* • *"That we had to wait a week if we cashed in for gift cards."*
	Other clients	Reactions	• *"Seeing [others] be ungrateful for what they got."*
		Motivation and progress	• *"People have to be motivated by gifts that's sad."* • *"I noticed some group members only came to group because of that. Overall, I don't like to concept of going to group to get rewarded for it. It might work in other aspects of health care but in a weekly group environment I think it's not necessary."* • *"When people set goals that weren't achievable."*
	Incentives	Prize selection	• *"Not many prizes I could use."* • *"Variation of prizes."*

Conclusions

These results suggest that staff and clients have similar beliefs regarding the CMBQ ProCM questionnaire subscale. Specifically, both staff and clients had largely neutral to slightly positive scores for this subscale. However, when clients responded to a question specifically tailored to assess the CM intervention they received, 67% reported that the intervention was very to extremely helpful. For the item asking how much they enjoyed the incentives received, 85% of clients reported that they were very to extremely satisfied.

Table 15

Themes, subthemes and client responses for comments and suggestions to improve CM

Category	Themes	Subtheme	Response Examples
Comments and Suggestions to Improve CM	CM Implementation and Continuation	Other Treatment Programs	• *"This should be available in all treatment/recovery centers."*
		Other Clients	• *"Keep this program going for other clients."*
	Incentives	Prize selection	• *"Better prizes or things that help us with after care or maybe pay our phone bills."* • *"Gender diversity of prizes, especially in the small category. I cannot use mainstream personal hygiene products, don't wear makeup and cannot eat sugary treats anymore. Maybe things like arts and crafts or mini puzzles from the Dollar Store would be a nice addition."*

Clients had significantly lower mean scores for the subscale investigating the general barriers of CM implementation, suggesting that clients did not believe the general barriers as negatively as staff. Furthermore, 74% of the clients endorsed being very to extremely confident that they would continue to complete the targeted behaviour following completion of CM. These findings suggest that the clients exposed to CM had a positive experience and that the content of the CMBQ's ProCM items, although modified for the client perspective, may not accurately reflect clients' beliefs about CM. When asked if they worried that they would not continue to complete the CM targeted behaviour once the CM intervention concluded, 65% of clients disagreed (to strongly disagreed), while only 39% of staff expressed disagreement to strong disagreement with this being a concern. However, both groups also showed a certain level of agreement (to strong agreement) with this concern (staff 38% and client 27%, respectively). Divergent responses were also observed for the item concerning fears that clients would view CM as patronizing, in that strong disagreement was expressed for 72% of clients, and only 30% of staff strongly disagreed that this was a fear. Similar strong objections were observed for the item that CM might cause arguments. For clients exposed to CM, 63% strongly disagreed that CM caused arguments, while only 6% of staff, not exposed to CM at the time of assessment, strongly disagreed with this concern. Lastly, an overwhelming majority of clients (91%) stated that they strongly disagreed

that they or other clients had sold/traded earned items for drugs, whereas only 6% of staff who had not experienced or implemented CM strongly disagreed with this item.

Open-ended questions regarding clients' CM experience provided insightful information on the best and worst things about CM, as well as comments and suggestions to improve CM protocol. The incentives offered were common themes amongst all open-ended questions. It was unsurprising that incentives were reported as the best part of CM, however, the importance placed on the incentives' ability to purchase needed items was intriguing and should guide the purchasing of incentives. Furthermore, clients' responses to this question often involved listing their preferred incentives, gift cards were frequently cited as the most desirable. Clients also acknowledged the association between engaging in their treatment and receiving a reward for their efforts, underscoring the intervention's operant conditioning roots. Incentives as a theme for the worst thing about CM were due to insufficient selection, which was further alluded to when questioned about suggestions to improve the protocol. Specifically, clients reported the need for an incentive selection with more options to aid in aftercare, more hobby-orientated items, more gender-neutral items, and items that accommodate dietary restrictions.

Another common theme among the best things about CM was that clients reported they did not feel like the incentives undermined their intrinsic motivation. In fact, clients felt that the incentives might offer them an initial push to engage in their treatment. This finding refutes the commonly cited barrier that incentives may undermine clients' intrinsic motivation. Likewise, treatment engagement was a common theme, with encouragement from and comradery with fellow group members representing frequently cited subthemes. While these reactions speak to the effectiveness of implementing CM in a group setting, it is important to note that other clients' reactions and motivations emerged as subthemes for the worst thing about CM. Regarding other clients' reactions, the survey responses suggest that some clients were observed to be ungrateful. Though these comments did not expand beyond this, it can be speculated that clients were ungrateful for the prize draw outcomes or the incentives received. While concerning, it is important to remember that a majority of clients (85%) enjoyed the incentives received and disagreed that CM caused arguments among clients (93%). The results of these open-ended questions highlight both the positive and negative aspects of implementing CM in a group setting. Future research should compare the effectiveness of individual versus group therapy settings.

The other common theme for the worst thing about CM pertained to the CM protocol itself. Clients raised issues regarding the draw slip ratio and described themselves as disheartened when drawing the 'good job' slips. Although the fishbowl methodology was designed to minimize the cost of incentives, alternative, albeit costly, incentive protocols such as the voucher system

exist. Another proposed way to circumvent feelings of discouragement from drawing the 'good job' slip, whilst being mindful of the cost of incentives, would be to adopt the 'name-in-the-hat' protocol (Petry, 2013). This protocol involves clients putting their name in a hat; if their name is drawn, they earn a prize slip with a guaranteed prize. There are no affirmations in this prize draw protocol, therefore, clients whose names are drawn automatically win a small, medium, large or jumbo prize, as opposed to only having a 50% chance of winning a prize. Although the name-in-the-hat protocol is an inexpensive option that eliminates the affirmation prize category, not having your name drawn could be a source of disappointment for clients. Interestingly, the negative reactions to drawing a non-prize-winning slip were not reported by clients at the program using positive quotes/affirmations. Therefore, if clients express frustration from drawing the 'good jobs' prize slips, it may be advisable to use positive affirmations instead.

The subtheme of time also emerged as a negative feature of CM in that clients mentioned having to stay for long periods after group. Though this response was not further expanded, the mentioned time aspect may be due to time spent waiting for others to participate in the prize draw. Counsellors commonly reported time spent administering CM as a limitation. Suggestions to address this are discussed in the Implementation Observations and Recommendations Section below. Clients at the program targeting goal completion also cited the time it took to fill out the paperwork as a negative aspect of the CM protocol. The paperwork involved recording their goals each week; this was a deterrent as clients had already recorded their goals as part of their program. As this was an important element of the CM protocol, clients were required to complete this paperwork. However, the third pilot addressed this issue by reducing the number of data recording redundancies.

Lastly, CM implementation and continuation themes emerged from the open-ended question asking for comments and suggestions to improve the CM protocol. Clients expressed that the programs involved in Phase II should continue using CM and that other treatment services should adopt CM.

To our knowledge, Project Engage was the first study to examine the relationship between treatment staff and clients' beliefs towards CM. While past research has focused exclusively on clinician beliefs and attitudes towards CM with no prior CM experience, the current study included clients following CM exposure. Furthermore, clients answered questions specific to their CM experience, as well as open-ended questions, to understand the positive and negative aspects of CM and ways to improve the intervention from a client perspective. However novel the results, they should be considered in light of several limitations. One such limitation relates to the fact that behaviour completion percentage (i.e., attendance or goal completion) for clients

who completed the survey was 85%, while those who did not complete the survey had a mean behaviour completion rate of 30%. Therefore, the surveyed sample is likely biased towards being

more positive towards CM. However, this does confirm that those surveyed had adequate exposure to CM to provide feedback. Future studies should investigate ways to increase client survey completion, especially among those with limited CM exposure. It would also be helpful to continue exploring how staff and client beliefs differ with respect to CM and other evidence-based interventions. As past research has solely focused on clinicians' views without CM experience, it is also advised that both client and staff attitudes towards CM be compared before and after CM exposure. A revised version of the CMBQ for clients should also be created, as well as a revised version for staff and clients with experience with CM. Lastly, it is recommended that future studies evaluate if presenting clinicians with feedback about client experiences improves their beliefs and attitudes towards CM.

Overall, these results provided helpful insight into the perspectives of clients that have been exposed to CM. Broadly, the survey results suggest that the clients surveyed had a positive experience with CM and found it very helpful. Furthermore, the general barriers reported by staff do not appear to be viewed as negatively by clients. As past research suggests that CM is not widely accepted due to clinician views, perhaps presenting these findings and client perspectives may help break down the barriers to CMs application in treatment settings. It is therefore suggested that future research evaluating CM aim to include the client's perspective.

Implementation Observations and Suggestions

Throughout Phase II, counsellors and research staff reported important implementation observations, some of which have been alluded to in past research and others that were novel to this project. We outline these observations and provide helpful recommendations to address the barriers and limitations observed. To help organize our findings, we have broken down the observations into the seven principles of CM implementation outlined by Kellogg, Stitzer, Petry, and Kreek (2007).

Principle One: Target Behaviour

Goal completion. Targeting goal completion presented unique challenges. One particular challenge was ensuring weekly client goals were specific and measurable. For example, the vague goal of 'eating better' was recorded by several clients. To improve specificity, 'eating better' was changed to 'eat three meals a day that are high in protein and low in carbs, and eat no junk food

for a week.' Adding this level of detail makes it easier for the client and staff to track progress which, in turn, improves overall accountability.

Another aspect of goal planning that was attended to was the choice of goals that could be achieved passively by not doing something. These types of goals are sometimes referred to as 'dead man's goals,' goals a deceased individual could achieve. For instance, clients were listing recovery goals such as 'not using [substances]' or financial goal actions of 'not lending or borrowing money.' In these instances, clients were encouraged to set goals that required measurable action on their part.

A unique challenge of goal completion was determining appropriate methods of verification. Fortunately, the clients, counsellors, and research staff developed several creative ways to verify completion. Such examples included:

1. Photos (i.e., participating in activities, spending time with family, attending recovery groups).
2. Providing documents (i.e., housing applications, credit check reports, resumes).
3. Showing phone or internet usage (i.e., phone calls to family, websites visited such as job search engines or university course catalogues).
4. Attendance at in-house programs (i.e., fitness classes, meditation).
5. Questioning the individual (i.e., asking questions regarding what was read in the Big Book, university course requirements).
6. Journaling (i.e., workout journal, budget break down, journal entries about mental wellbeing and sleep routines).

Past research reinforcing goal completion emphasized the importance of verification and has provided many verification method suggestions (See Petry et al., 2001 for a comprehensive list).

Attendance. While attendance was more straightforward than verification, targeting this behaviour had its own unique challenges. Although the intended outcome of targeting attendance is to increase it, better attendance records led to increases in time spent waiting for and administering prizes, recording data, and, in general, a more chaotic environment for both staff and clients. To alleviate this pressure, one of the programs decided to split up the original group that had grown too large. While this change did decrease the time clients spent waiting for their draw opportunity and alleviated some of the counsellor's stress, it did not decrease counsellor workload overall. All programs involved in Phase II noted counsellor time and workload increase as an implementation barrier. Despite this concern, past research has failed to acknowledge this limitation. Therefore, research is needed to generate guidelines to reduce CM administration time and counsellor workload to increase the applicability of CM. Preliminary

suggestions to manage and mitigate CM time and workload increases are provided in the Suggestions for Managing Time and Workload section below.

A protocol deviation observed among programs targeting attendance was failing to provide the deserved incentive if clients had an approved reason to leave the group early or if clients could not stay for the draw. Unfortunately, the latter example was increasingly common as group attendance increased. Such was the case for the CCG group with 26 attendees, which increased the CM administration time to 1 hour. If clients have an approved reason to leave before receiving their deserved draw, the client must receive their deserved prize draw at their subsequent attendance to ensure the fidelity of CM.

In conclusion, regarding the principle of 'targeted behaviour,' we learned the importance of:

1. Assessing client goals to ensure they are specific, objective, attainable and not 'dead man's' goals.
2. Ensuring verification methods before assessment and using creative was to verify behaviour completion.
3. Acknowledging that attendance increases translate to time commitment and workload increases. Therefore, it is important to anticipate this and develop management and reduction strategies.
4. Ensuring that the CM protocol is followed, with particular attention paid to protocols concerning excused absences, approved early departures, and when clients are unable to stay for the draw.

Principle Two: Target Population

Harm-reduction, treatment and continuing care. The three programs differed concerning the degree to which CM's effectiveness was supported. CM proved to be very effective at reinforcing goal step completion (i.e., completion rates between 91-94%). However, attendance rates at the continuing care group (52.83%)and the harm-reduction group (21.53%) were less favourable. While different targeted behaviour may account for this difference, another proposed explanation may be the treatment setting. For instance, individuals participating in the program incentivizing goal completion were in a residential setting, while groups incentivizing attendance were receiving outpatient treatment services. In comparing the two outpatient programs, it is apparent that the individuals in Aventa's CCG fared better regarding attendance than AHS' TEE Time group. AHS counsellors postulated that low attendance rates evidenced by the TEE Time group might be due to the group itself being relatively new (i.e., only one 12 session block prior to our involvement), which is less established than the CCG.

We also speculate that the stage of treatment may explain the unfavourable results of the TEE Time group's first and second pilot. According to the stages of change model (DiClemente, Schlundt, & Gemmell, 2004; Prochaska, DiClemente, & Norcross, 1992), it can be argued that those in CCG, having recently completed an inpatient treatment program, are in the maintenance stage of change (i.e., successfully decreased or ceased use and working to maintain progress). Comparatively, anecdotal counsellor reports and the harm-reduction nature of the TEE Time group suggests its attendees were more likely in the pre-contemplation (i.e., does not recognize the problem and is not considering reducing or refraining from use), contemplation (i.e., recognizes the problem and considers a change, but has not committed to action), or the action stage (i.e., begins changing to reduce or refrain from use). Thus, the nature of these two outpatient groups likely represent differences in the stages of changes among the individuals that attend them and may explain the discrepant findings observed.

Recall that the theoretical aim of CM is to change the reinforcement structure with the provision of incentives to increase positive behaviour change capable of competing with the reinforcement achieved with substance use. This may explain the low rates of reinforcement observed amongst individuals attending a harm-reduction group compared to an abstinence-based group. Current substance use rates were likely higher among the harm-reduction group, as abstinence is not a mandatory criterion for attendance. It is possible, then, that the incentives offered were not strong enough to compete with the reinforcement derived from substances used. Furthermore, the behaviours inherent to substance use (e.g., great time spent engaging in activities to obtain, use or recover from substance effects, etc.; DSM-5 American Psychiatric Association, 2013) may have resulted in lower attendance rates. The TEE Time group also exhibited factors said to influence the need for incentives with a greater magnitude (e.g., the level of present drug use, the nature of social networks, etc.) along with other barriers that could impede attendance (i.e., lack of permanent housing, transportation issues, etc.; Stitzer et al., 1984). Consequently, the TEE Time group's second pilot's incentive protocol was altered in that a medium prize, or a 'primer,' was provided to clients. Unfortunately, the primer did not increase the efficacy of CM in the second pilot. Therefore, it is suggested that the primer be of a greater magnitude and not administered until a second consecutive successful attendance.

Female clients versus male clients. Though it was not our intention to examine gender differences in CM implementation, gender-related observations were inevitable given the participating programs were a men's treatment center, women's CCG, and a mixed-gender harm-reduction group. Consistent with past literature, the current study found CM to be appropriate and effective for both genders. That being said, several gender-related protocol and procedure differences were observed. For instance, following management's suggestion, the prize draw

slips for the women's CCG used positive affirmations (i.e., affirmations selected were already available to clients in the lobby/leisure area at Aventa) rather than generic 'good job' slips. Examples of these positive affirmations included, 'I radiate beauty, charm, and grace', 'I expect to be successful in all of my endeavours', and 'Success is my natural state'. Though thought to be a small protocol deviation, the appreciation of this detail was observed through clients reading the affirmations aloud to the group, expressing that they "really needed to hear that" in response to drawing a certain affirmation or wanting to take the selected affirmation home with them. Although clients could not take the slips away because the slip ratio needed to be retained, clients were encouraged to take pictures of the affirmation, if possible. In order to maintain the prize draw ratio, it is recommended that an extra supply of positive affirmation draw slips be kept on hand should clients wish to keep the slip they drew.

Regarding affirmations, it is also recommended that:

1. There is a sufficient variety of affirmations, and that the draw slips be mixed up very thoroughly in between clients to ensure variety, lessening the chance that clients repeatedly receive the same affirmations.
2. New affirmations be added in or exchanged periodically.
3. The affirmation should be relatively short in length for time purposes. There is also the possibility that affirmations and prize slips could be deciphered based on the amount of writing on the slip (i.e., the single word of small versus a positive saying involving 10 words). In the current study, the slips with a prize amount had the prize category name written repeatedly (e.g., small, small, small, small, small) so that clients could not tell the difference between affirmations and prizes
4. Appropriate and inclusive affirmations be used.

Though the clients from the other programs did not complain or comment on the good job' affirmations, those in the CCG appeared to be in favour of this detail. Therefore, the inclusion of positive affirmations should be considered within the context of the targeted population.

Another implementation aspect influenced by gender was the incentives purchased. Despite the notion that females would prefer traditionally more 'feminine' items, results of the client survey suggested otherwise. Therefore, purchasing was done per these survey results.

It is also important to note that a variety of incentives were initially purchased for the mixed-gender TEE Time group. For example, concerning traditionally gender-specific items (i.e., hygiene products), the prize cabinet was originally stocked with a 50/50 gender ratio in mind. However, midway through implementation, the counsellors reported increased male attendance and requested more male hygiene items.

In conclusion, the key implementation lessons learned concerning the principle of 'target population' were the importance of considering:

1. The influence of treatment setting (outpatient vs. inpatient).
2. Clients' stage of change or motivation to change.
3. Factors and barriers influencing client success.
4. Adjustments to reinforcement magnitude or schedule (i.e., priming) in the event of low reinforcement rates.
5. The use of appropriate and inclusive positive affirmations.
6. The importance of surveying clients to determine incentive preferences.
7. Incentives used and incentive stock/ratios as they relate to gender.

These lessons emphasize the importance of client and counsellor feedback incorporation to enhance protocol, as well as the importance of examining data throughout implementation (especially in the early stages) to avoid unintended negative impacts.

Principle Three: Choice of Incentive

Privileges. Initially, Fresh Start envisioned reinforcing goal completion using the privilege model. While a list of privileges was created (see below), further discussion revealed many of the proposed privileges were already built into the program's culture, albeit in a less formal way than a CM program. Literature utilizing the privilege model emphasizes the importance of a formal exchange system. For instance, programs that already provide privileges and wish to implement a CM protocol with these privileges as the incentive must adopt a formalized system that clearly outlines the exchange rate of the behaviour completed and the privilege earned. The clients must know that by completing a specific behaviour they will earn a privilege from a list such as those outlined in Table 16.

Fresh Start clients receive specific privileges as they progressed through different stages of their treatment. Although novel privilege options were provided, several of the proposed privileges were rejected by management, who stated that they could negatively impact treatment (e.g., missing a group) or contradicted the program's philosophy (e.g., getting out of chores). Given the difficulty in designing a formalized privilege model at Fresh Start and the privilege model's inherent lack of applicability to outpatient settings, all programs involved in this study opted to use the prize draw method.

Table 16

Example of behaviour and choice of privilege chart

Behaviour to be completed	Choice of Privilege (choose one)
1 goal completed	▪ Phone call ▪ Choice in weekly chore ▪ Earlier or later eating time
2 goals completed	▪ Evening pass ▪ 1-hour TV/Movie time ▪ Exercise time (1 hour/week)
3 goals completed	▪ Extended visitor hours (1 hour weekdays) ▪ Choice in evening meal (1 evening) ▪ Sleeping in late (one weekday)
4 goals completed	▪ Weekend pass ▪ Getting out of a weekly chore ▪ Missing a group ▪ Small job opportunities to make money (e.g., custodial work, moving, yard work, etc.).

Though the current study did not use the privilege model, our preparation informed the following recommendations.

1. Ensure that there is a variety of reinforcers clients can choose from. While some may enjoy extended visitor hours, those whose family and friends cannot visit are unlikely to be incentivized by this privilege. Thus, it is important to provide a variety of options that appeal to all clients.
2. A formalized system and a documented exchange rate must be developed. Privileges deemed more desirable, or more difficult for the program to accommodate should require greater behavioural completion. Therefore, it is suggested that:
    - counsellors make a list of all possible privileges while being mindful of program values and privileges' potential impact on client progress,
    - client feedback be incorporated during the creation and ranking system of the privilege list,
    - create a clear document outlining the exchange rate between the behaviour(s) to be completed and the earned privilege choices. The document should also be explicit in what the privilege will involve.

3. Lastly, a consistent and immediate link must exist between the target behaviours completion and the privileges delivery. When the privilege cannot be provided immediately, as is the case with a majority of privileges listed above, it is advised that clients be provided with a 'certificate' illustrating this connection and reminding them of their achievement (e.g., "Because of your hard work in completing four goals you will receive a weekend pass for March 7th at 7 am to March 8th at 9 pm).

Voucher and prize draw combination. Following the privilege model abandonment, the onsite prize distribution method was proposed and challenged by Fresh Start management. Initially, management was opposed to the prize draw method because of philosophical concerns and fears that clients would find the protocol patronizing. Further, they expressed reservations about providing arbitrary prizes and expressed a desire to provide practical incentives to aid in clients' treatment goals. With this request in mind, the research staff concluded that it was unrealistic to prepurchase items given the individual nature of the clients' treatment goals. Thus, a combination of the voucher and prize draw method was developed.

Petry's original prize draw method was largely retained, with the exception of draw slips having monetary prize amounts instead of a prize category. The money won accumulated in a "voucher saving account," and item purchasing was negotiated with the research staff and counsellors to ensure the item was appropriate and pertained to their treatment goals. Given the pilot work results at Fresh Start, this method proved to be effective at incentivizing goal step completion and provided us with several unique observations, including:

1. This method significantly increased the amount of time spent purchasing; approximately 22 hours over 12 weeks at this program compared to 15 hours over 12 weeks at the other programs. This difference was due to the inherent nature of not having an onsite prize cabinet and the increased frequency of item requests. Likewise, individual item requests increased the number of retail locations shopped at.
2. The importance of obtaining specific information about the requested item to avoid purchasing errors. Clients were encouraged to provide specific item details (e.g., store website links, pictures, etc.) to mitigate these errors.
3. Guidelines and rules regarding the purchasing of certain items should be outlined before and reiterated throughout implementation. A detailed list of prohibited items should be included in the letter outlining the CM protocol. Furthermore, each item's appropriateness should be reviewed within the context of counsellor experience, program values, and potential harms. It is also suggested that the list of prohibited items include complex items. For instance, one client requested a new phone screen and its installation to aid in his family relationship goal. This posed many challenges, and the

research staff instead suggested a retail location gift card to fix his phone. Lastly, purchasing limitations should also be conveyed to clients. Purchase requests for this study were fulfilled using a corporate credit card, thus, purchases requiring cash were prohibited. Further information and item suggestions are provided below in the General Observations - Purchasing section.

4. Understanding gift card monetary amount limitations. Specifically, certain gift cards could only be purchased in certain denominations. Reminding clients of this was an important observation. For instance, clients were informed that if they had $28 accumulated, only a $25 gift card could be purchased, and the remaining $3 would have to remain in their "voucher savings account."
5. Concerning the previous observation, clients often had money left over that could not be used before program graduation due to their small amount. In these instances, the research staff discussed options to use the remaining amount, including donating to others in the group or the program, pooling the money to have a pizza/movie party, or purchasing a thank you gift for their counsellor. Both groups ultimately decided to purchase a gift for their counsellor.

Onsite prize distribution. Aventa and AHS favoured the onsite prize distribution method because of the immediacy of the incentives and belief that clients could benefit from certain items. Furthermore, both sites had dedicated space to store the incentives securely. Several implementation observations were made through using the onsite prize method, including:

1. The importance of surveying clients multiple times to determine the most desirable incentives. As per proper CM protocol, clients were surveyed at both programs before the initial incentive purchase, albeit, attendance at these initial groups was low (i.e., five in the women's treatment center, and 7 in the harm-reduction group). The anecdotal reports from clients suggested that the original survey results were not reflective of the subsequent group's preferences. This was further supported by the client survey results, suggesting that a small number of individuals at both programs did not find the incentive options desirable. Specifically, Aventa clients wanted less gendered prize options, fewer makeup items, and more practical items (e.g., cookware, tools, home items for the bedroom or bathroom etc.). Both programs reported a preference for gift cards and the need for more grocery retail options. In light of these observations, it is suggested that the counsellors ask for client feedback regularly and re-administer the incentive survey following increases in attendance. It is also recommended that there be an assortment of gift cards to retail locations capable of multiple purchasing needs (e.g., grocery, household items, medical and pharmacy needs, clothing, etc.). Some popular examples of such retail locations included Walmart, Amazon, and Shoppers Drug Mart.

2. Storage space needed and mobility issues. While both programs had adequate space to store the incentives, mobility issues arose as the incentive cabinet were located in different buildings than where the groups were held. In response to this, the TEE Time counsellors had to transfer the prizes to and from the meeting room. Furthermore, certain prizes (i.e., heavier items like a toolset) and prize categories (i.e., small prize category which had a larger selection of items and required multiple bins) were more challenging from a mobility standpoint. Aventa's response to the different locations was to take clients to the prize cabinet location after each group. While this eliminated the need to transfer the prizes, it increased the administration time. Unfortunately, this may be an unavoidable issue as the incentives require secure storage space. Therefore, when purchasing, it is important to be mindful of the number of items, their weight, and their ease of mobility. Furthermore, if there are duplicate or similar items, it is recommended that only one option be displayed. Lastly, the logistical appeal of gift cards as they relate storage and mobility needs should be considered.

General incentive observations. Several important observations were made concerning the incentives principle of CM implementation, including the themes of purchasing, prize accumulation, and prohibited items.

1. *Purchasing.* Counsellors at each program informed the research staff when the incentive selection needed to be replenished. Purchasing was conducted when any prize category had less than 50% of the original recommended number of items (See Petry, 2012); approximately every 2-3 weeks at the two programs utilizing the onsite prize distribution method. As previously mentioned, the voucher method required more frequent purchasing, roughly every 1-2 weeks. A significant amount of time was spent purchasing and reconciling these purchases with the University of Calgary's finance department. Notable decreases in the time spent purchasing and reconciling purchases were observed as the research staff developed a system. The Suggestions for Managing Time and Workload section below provides recommendations for decreasing the time spent purchasing.
2. *Prize accumulation.* Allowing clients to accumulate their winnings in exchange for larger prizes increases the protocol's complexity. While this was an inevitable component of the voucher and prize draw combination offered at Fresh Start, a similar option was offered to clients at the other programs. At these programs, clients could save their smaller earned prize amounts and exchange them for larger prizes. This increased the record-keeping complexity, especially if the desired prize was in the large or jumbo category and the accumulation occurred over several weeks. For instance, clients saving for a jumbo prize were required to accumulate $100 from their drawn small, medium,

and large prizes (i.e., equivalent to $1, $5, $20, respectively). This emphasizes the importance of accurate and clear recording.

3. *Prohibited items.* In establishing the list of prohibited items, consultation with staff was crucial. Interestingly, the original list of incentives provided by Petry (2013) included items deemed inappropriate locally. As mouth wash could be ingested for the intent of intoxication (for brands including alcohol), this item was removed from the survey. Furthermore, Aventa management cautioned research staff when purchasing aerosol products which could be inhaled for intoxication, and hairspray as they too often contain alcohol.
4. Other more obvious prohibited items include:
    - alcohol, drugs and their paraphernalia,
    - cigarettes/vaping juice or equipment,
    - lottery tickets,
    - weapons.

    As noted earlier, gift cards were very appealing and had pronounced logistical benefits. However, considering which gift cards had the potential to cause harm was another important factor of the implementation process. For instance, the following gift cards were prohibited to reduce the likelihood that they could be used to purchase drugs and alcohol:
    - gifts cards to liquor or cannabis stores,
    - gift cards to stores with affiliated liquor stores (e.g., Co-op, Sobeys, etc.),
    - prepaid VISA or MasterCard,
    - gift cards to shopping malls.

    Some programs were also opposed to:
    - convenience store gift cards (i.e., purchasing cigarettes),
    - vape shop gift cards.

While efforts can be made to minimize potential harm, all prizes earned could be exchanged for substances. Likewise, gift cards purchased at appropriate stores, like Walmart, can be used to purchase the Liquor Depot gift cards sold at Walmart or prepaid credit cards to be used anywhere. It is important to remember that the current study found that 91% of clients surveyed strongly disagreed with the statement that they had sold or traded their earned items for drugs or alcohol. Overall, it is recommended that a list of prohibited incentives be determined in the early stages of implementation through staff discussion to minimize potential harm.

In conclusion, the key lessons learned concerning the choice of incentives include:

1. Considering which incentive method is best suited for the program and clientele.
2. Surveying clients on their incentive preferences before the initial purchase and periodically throughout the intervention.
3. Determining prohibited incentives and outlining incentive purchasing rules before implementation.
4. Being mindful of storage needs and potential incentive mobility challenges.
5. Developing strategies to decrease the time and workload of purchasing incentives.
6. Clear and concise record-keeping to ensure protocol is followed and incentives are tracked. Additionally, this data is useful in determining the most desirable incentives.

Principle Four: Incentive Magnitude

The results of Phase II's implementation work support the magnitude of the incentives used at two participating programs. However, the first pilot study results with AHS' TEE Time group suggested that this group required greater incentive magnitude. As previously discussed, the second pilot with the TEE Time group utilized the 'priming' method where clients earned a $5 gift card upon their first attendance in addition to their regular draw. The decision to include a primer was to ensure that clients had a degree of exposure to the incentives offered upon their first attendance independent of the prize draw outcome. Although the primer failed to increase attendance in the CM group of the second pilot, several important lessons were learned through this process.

1. The inclusion of a primer increased the importance of clear and concise record-keeping to ensure which clients had already received their primer.
2. This also increased the needed supply of medium prizes from 5-10 to 20-30 (Petry, 2013).
3. Ultimately, the second pilot's results suggest that this group required a primer with a larger magnitude and that the primer should have been offered after their second consecutively attended group.

Principle Five: Frequency of Incentive Rewards

All programs participating in Phase II incentivized the targeted behaviour weekly using the prize draw method. Although clients' progress was assessed weekly, the frequency in which the incentives were received was variable, given the randomness of the prize draw. The weekly assessment schedule was chosen because the groups assessing attendance were scheduled

weekly, and the program schedule and counsellor availability determined the weekly goal assessment schedule.

One interesting observation concerning weekly scheduled monitoring was the effectiveness of more frequent assessment points. Prior to our involvement, Fresh Start assessed goal completion every three to four weeks. Adhering to the recommendation that assessments for behaviours such as goal completion be no less than weekly (Kellogg et al., 2007; Petry, 2012), the monitoring schedule at Fresh Start was reformed to a weekly assessment schedule with dedicated group time. Both management and the group counsellor acknowledged the effectiveness of the increased assessment points and how the verification methods held clients accountable. Furthermore, the program expressed interest in continuing to use CM. The third pilot was conducted to assess whether the assessment changes or the incentives were responsible for the favourable completion rate. The third pilot results suggest that the improved step completion rates were explained by the reformed assessment schedule and verification methods rather than the given incentives. However, given the uncontrolled open trial nature of this project, these results should be considered with caution. Future research should compare the efficacy of incentives versus reformed assessment schedules.

Another observation regarding scheduling was the impact of assessment dates occurring on statutory holidays. For the program incentivizing group attendance, group sessions were postponed on holidays which negatively impacted attendance at the next meeting date. More flexibility was offered at Fresh Start in that the assessment date was reassigned to the next available date, typically within four days. Although postponing the assessment date did not appear to impact goal step completion negatively, it did cause disruptions to the protocol and required flexibility on the counsellor and clients' part. Ultimately, the conflict of scheduled assessment dates on statutory holidays and the impact of unforeseen events like illness may be inevitable, however, it is important to maintain a regular schedule to ensure a consistent routine.

Principle Six: Timing of the Incentive

The onsite prize distribution method emphasized the importance of immediacy in providing the incentives. Fresh Start, which utilized a combination of the voucher and prize draw method, involved clients accumulating their prize amounts and exchanging them for retail goods once they had earned enough. Some clients participating in the voucher and prize draw method expressed frustration regarding the lack of immediacy in receiving their requested items. Through consultation with CM protocol guidelines and consideration of the scheduled visits, clients were permitted to make purchase requests following each draw. The requested items

were delivered at the subsequent assessment date, approximately one week later. Despite this explicit instruction, clients frequently requested that their items be delivered the following day. While the lack of immediacy in incentive delivery did not appear to impede its effectiveness, the impact of incentive timing should be considered when adopting the voucher incentive approach. In conclusion, this experience informed us of several important aspects to consider when using the voucher method., It is advised that:

1. The permitted purchasing order dates and the anticipated delivery dates be clarified prior to, and reiterated throughout, implementation.
2. Following a successful draw, clients are provided with a certificate with the incentive amount earned to remind them of their progress. An example of the certificate used in the current study can be seen in Figure 16.

Figure 16

Example of certificate for clients to remind them of the incentive earned, their progress and the next draw

CONGRATULATIONS!

Because of your commitment to completing your weekly goal action steps
you have won [INSERT $ AMOUNT WON}

REMEMBER:

If you complete your weekly action steps next week
your number of draws will be [INSERT # of DRAWS}
The more draws you earn the greater your chances of winning larger prizes!

Principle Seven: Duration of Intervention

The intervention duration in the current project was determined by the participating programs' treatment timeline and the project's requirement of an adequate sample size. As goals were normally set on week 3, the intervention lasted 11 weeks. For the programs assessing attendance, Aventa clients committed to three months of aftercare attendance, and the TEE Time group had 12 session topics. As a larger sample size was required for the CCG, the intervention continued beyond the three months. Therefore, as clients were permitted to continue attending the CCG beyond their three-month commitment, their exposure to CM intervention could have been up to six months. Much like Aventa, clients participating in the TEE Time group were permitted to attend the group beyond the 12 sessions. Following the conclusion of the TEE Time group's first pilot, attendance was not recorded for research purposes, and clients were given opportunities to earn the remaining incentives for their attendance until the second pilot began. Therefore, clients of the TEE Time group could have been exposed to incentives beyond 12 weeks.

Suggestions for Managing Time and Workload

Through consultation with counsellors at the participating programs, it became apparent that increased administration time and workload were significant barriers to implementation. While suggestions to manage and reduce the impact of these barriers have been provided throughout this report, this section aims to reiterate and provide additional recommendations to increase the convenience of CM implementation. The observed factors contributing to increased administration time and workload, as well as strategies to manage their impact, are discussed below.

Purchasing

As previously mentioned, the time spent purchasing incentives was between 15 and 22 hours. The program using the voucher and prize draw method was associated with greater purchasing time commitment (i.e., average 22 hours for 12 weeks) than the programs utilizing the onsite prize cabinet (i.e., average 15 hours for 12 weeks). The reason for a greater time commitment was due to individual item requests and the weekly delivery schedule. Throughout the implementation process, strategies to reduce the time spent purchasing were developed and are outlined below.

Small prize category. Purchase small prize items at discount stores with fixed prices for all retail items, such as Dollar Tree, which has a fixed price of $1.25. Shopping at these locations will decrease the amount of time spent verifying item prices.

Gift cards. Purchasing large quantities of gift cards in person is time-consuming for the purchaser and the store staff people. Therefore, it is advised that gift card purchases of $25 or more be made through the retailer's online order fulfilment services. In instances where online purchasing is not an option, it is recommended that purchasing be completed outside of the times in which stores are busiest, as buying numerous gift cards at once can be time-consuming. It should also be noted that some businesses have a fraudulent purchasing prevention method that limits the quantity in which gift cards for the same denomination can be purchased. In our experience, this limit was 50 units. Thus, gift cards with the same denomination in quantities of 50 or more were purchased on two separate days. Another recommendation to minimize purchasing time is to purchase gift cards at retail locations that sell gift cards for other businesses (e.g., Walmart and Shoppers Drug Mart, which have gift card sections/aisles). This strategy only works for gift cards with a denomination of $20 or more.

Using money as an incentive. Another proposed time reduction strategy is to forgo purchasing altogether and instead provide money. Although money was not an incentive option in this project, research suggests that money is a highly desirable incentive (Kirby et al., 1999; Rosado, Sigmon, Jones, & Stitzer, 2005; Stitzer et al., 1984). Money's effectiveness as an incentive has been demonstrated in studies targeting cocaine use (Elk, 1999), medical treatment compliance (Elk, 1999), aftercare and the community integration following in-patient treatment (Pickens & Thompson, 1984), and reducing drug use among psychiatric populations (Shaner et al., 1999; Sigmon, Steingard, Badger, Anthony, & Higgins, 2000).

A frequently cited reason for the limited use of money as an incentive is the possibility that clients would use their reward to purchase drugs or alcohol. However, despite this concern, past literature investigating how CM participants spent money they earned reported that 98% of the time the money was used for purposes other than acquiring drugs (Rothfleisch, Elk, Rhoades, & Schmitz, 1999).

Increased Attendance

Looking up clients. As noted previously, increased attendance led to increases in the CM administration time, particularly when retrieving client documentation to record their data. As the number of attendees fluctuated greatly and new clients were continuously joining the groups, this posed organizational challenges for documentation and made locating specific client records difficult and time-consuming. Therefore, it was recommended that client records be stored in an electronic database, such as an excel sheet, so that individuals' names could be easily searched.

Explaining the CM protocol. The influx of clients joining the group required the counsellors to continuously explain the CM protocol, which was a significant time commitment that took time away from the group. To minimize this, a brief description of the protocol was provided for new clients to read.

Assessment, Monitoring and Record-keeping

Recording redundancies. The counsellors at all participating programs noted that the data recorded for research purposes and the data recording required by the program lead to unnecessary workload increases. It is recommended, then, that the data recorded for research purposes and intervention be merged with the programs existing data recording platform to avoid recording redundancies.

Accumulating draw factor. While the accumulating draw feature was a strong motivator for continued behavioural completion, it also increased the counsellors' workload. The escalating number of draws resulted in substantial increases in the prize draw administration time and the time spent recording data. This added complexity highlights the importance of clear and concise documentation to ensure clients receive the correct number of draws. At Fresh Start, where there was a static number of attendees, these workload and time commitment increases were less of an implementation barrier. However, counsellors at the programs with variable attendance rates reported this as a significant limitation. In addition to the apparent time increase related to multiple draws, the accumulation draw factor also increased the administration time due to searching for client documentation to confirm the accurate number of allotted draws. As noted earlier, it is recommended that an excel sheet be used to reduce the time spent searching client names. Although the accumulating draw factor increased the workload and time commitment, it is not advised to remove this factor given its effectiveness.

Prize accumulation. Accumulating prizes earned to exchange later for larger prizes made the protocol more involved. This added complexity highlighted the need for concise and accurate data recording, which increased counsellor time. It is important to note that this protocol modification is optional. A clear template, such as the example in Table 17, is recommended if it is included.

Table 17

Example of client attendance sheet

Week #	Date & Time	Attended (Y/N)	Excused (Y/N)	# of Draws	Incentive(s) drawn	Banked item amount	Saved or banked total amount	Banked Item Selected
1	Mar 3, 2020 @ 11	Y	-	1	1-med (coffee card)	-	-	-
2	Mar 4, 2010 @ 1	N	N	0	-	-	-	-
3	Mar 5, 2020 @ 9	Y		1	1- med	1- med	5	-
4	Mar 6, 2020 @ 2	Y		2	1- med 1 - large	1- med	5+ 20 = $25	1-large (Walmart) * $5 remaining

Prize Draw and Choosing Prizes

All programs reported that the prize draw itself was time-consuming due to attendance and the accumulating draws. The prize draw time took between 30 and 60 minutes, depending on the number of clients. Participating programs with two counsellors present did not report as substantial of time increases as programs operating with one counsellor. The diffusion of administrative responsibility likely accounted for this difference, however, the presence of two counsellors was not always feasible and would increase program operating costs.

Programs using the onsite prize distribution method reported that the time clients spent selecting prizes was also time-consuming. Specifically, this activity took between 1 and 5 minutes per client. The prolonged length of time spent choosing a prize was likely due to the large selection of incentives offered. Therefore, it is important to balance having an adequate incentive selection and not overwhelming clients with too many options. Table 18 outlines the suggested number of options for each prize category, as per Petry (2012).

Table 18

Suggested number of prizes per prize category

Incentive Item	Number of Different options
Small	25
Medium	5-10
Large	8 - 12
Jumbo	2

A proposed solution to reduce prize selection times is to use gift cards for the medium, large and jumbo prize categories. Although this reduces the number of options, the effectiveness is maintained as gift cards are highly desirable. Another suggestion to reduce the prize draw's administration time is to adopt the name-in-the-hat method, which involves fewer draws and less time spent choosing prizes. The name-in-the-hat method was proposed for the second pilot study with AHS to reduce the observed time and workload barriers. However, the program ultimately decided against this method due to concerns that clients would blame the counsellor for their name not being chosen. Counsellors reported that this was not a limitation of the traditional fishbowl method as clients were all given a chance to draw, and their winnings were the result of their prize slip choice.

Goal Assessment and Verification

The pilot work at Fresh Start informed us of the challenges and time commitment involved in targeting goal completion. Specifically, the assessment, verification, and recording of goals for the following week took an additional 30 to 60 minutes (i.e., for a total of 1 – 1.5 hours including the prize draw). Essentially, this time commitment was unavoidable and the only strategy that reduced it was the establishment of a routine for the counsellors (i.e., one assessing goals and the other recording) and the clients (i.e., having their goal and verification documents ready).

Conclusions

Several important observations were made through our implementation work, and it is our hope that the lessons learned from our pilot work will inform further CM implementation efforts. In conclusion, the Phase II results underscored the importance of:

1. Considering the needs and resources of the program
2. Acknowledging the client perspective through anecdotal reports and surveys
3. Following the established CM principles and adapting to fit the needs of the clients and program.
4. Understanding the time commitment needed to implement CM and establish strategies to reduce counsellor workload.

PROJECT ENGAGE: PHASE III

Project Engage: Phase III

Rationale and Aims

Frontline staff attitudes and beliefs are often cited as barriers to adopting and implementing evidence-based treatments such as CM. Clarifying these attitudes and beliefs is essential to reducing implementation barriers. Therefore, the third phase of Project Engage examined how attitudes toward EBPs influence beliefs concerning CM in Canadian addiction treatment providers. As mentioned previously, this report will provide a summary of phase III findings. For a more detailed account of the method, results, and conclusion, please see the journal article entitled '*Attitudes Toward Evidence-Based Practices and Their Influence on Beliefs about Contingency Management: A Survey of Addiction Treatment Providers Across Canada'* by Megan Cowie and David Hodgins.

Method

Participants

Between March 2019 and March 2020, managers at addictions treatment programs (ATPs) across all ten Canadian provinces (i.e., British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Newfoundland and Labrador, and Prince Edward Island) were contacted and asked to distribute a survey to potentially interested providers in their program(s). Eligible providers were those providing individual client services aiming to reduce substance use.

Measures

The providers completed a screening and demographics questionnaire as well as questionnaires on EBPs, CM, and therapeutic orientation.

Screening and demographics. Providers completed a self-report screening questionnaire with questions concerning gender, education, certification, recovery status, job position, and the client populations they treat.

Evidence-based practices. Attitudes toward EBPs were assessed using the previously described EBPAS. See the measurements section of Phase I for a description of this assessment tool.

Contingency management. Participants answered questions concerning their previous experience and familiarity with CM and other incentives, whether they had prior CM training, CM's perceived efficacy, and their interest in CM. Beliefs about CM were assessed using the CMBQ. See the measurements section of Phase I for a detailed description of the CMBQ.

Therapeutic orientation. Therapeutic orientation was assessed using the 12-step and CB approach subscales from the therapeutic beliefs questionnaire (Kasarabada et al., 2001). Items were scored on 7-point Likert scores, with four questions assessing CB adherence and three questions assessing 12-step adherence.

Statistical Analyses

Univariate analyses assessed categorical group-level differences on continuous outcomes and compared within-person mean differences. Using Multi-level modelling (MLM), the relationship between attitudes toward EBPs and CM beliefs was examined.

Results

Participant information. Two hundred thirty-seven providers (19.32% response rate) from 90 programs across ten Canadian provinces participated. A majority of providers were female (68.78%), had a bachelor's degree or higher (78.63%), reported that they learned on the job (84.81%) or through post-secondary education (80.59%), were certified (63.25%), had a CB therapeutic orientation, and were not in recovery from a substance use disorder (71.23%).

Client demographic characteristics. The predominant treatment setting clients were seen in included residential (56.12%) and non-residential (64.14%) and day treatment programs. The most common clients seen in treatment were males (90.00%), Indigenous peoples (92.11%), members of the LGBTQ community (92.07%), and individuals with concurrent disorders (96.12%). Alcohol (M = 52.26, *SD* = 26.28), tobacco/ nicotine (M = 41.47, *SD* = 40.53), cannabis (M = 38.90, *SD* = 34.31), stimulants (M = 36.39, *SD* = 26.08), and opioids (M = 31.89, *SD* = 27.18) were the most common primary addictions of the surveyed providers' clients.

Contingency management. A majority of providers were not familiar with CM (43.29%); however, forty-four providers reported using CM. For those with CM experience, the incentive models they used (i.e., vouchers, privileges, prize draws) were reported, with a majority utilizing program privileges (68.18%). Furthermore, those with prior CM experience endorsed having some degree of CM training, often through self-study (42.67%). Lastly, a majority of providers reported being open to training in CM (83.84%).

For the CMBQ subscales, providers held largely neutral attitudes towards CM. Specifically, providers endorsed greater training-related barriers (M = 3.63, SD = 0.62) compared to general CM barriers (M = 2.88, SD = 0.54) and pro-CM statements (M = 3.40, SD = 0.55). Likewise, pro-CM statements were greater in comparison to general CM barriers. Providers with prior experience in CM had lower general and training-related CM barriers subscale scores and greater

pro-CM subscale scores (Figure 17). Providers with prior CM training reported fewer training-related CM barriers and greater pro-CM statements (Figure 18).

Figure 17.

CMBQ scale scores for providers with and without prior CM experience.

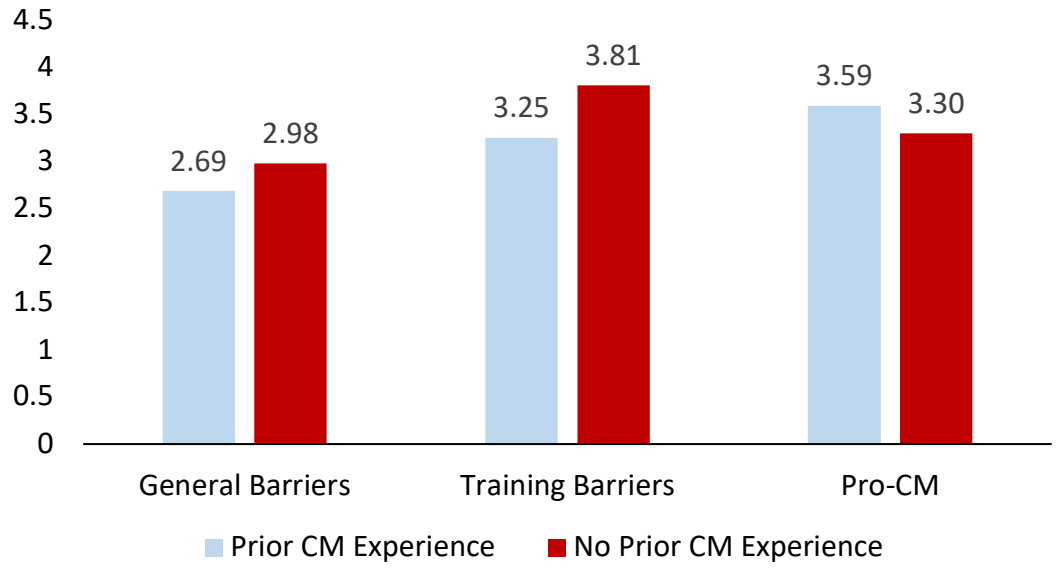
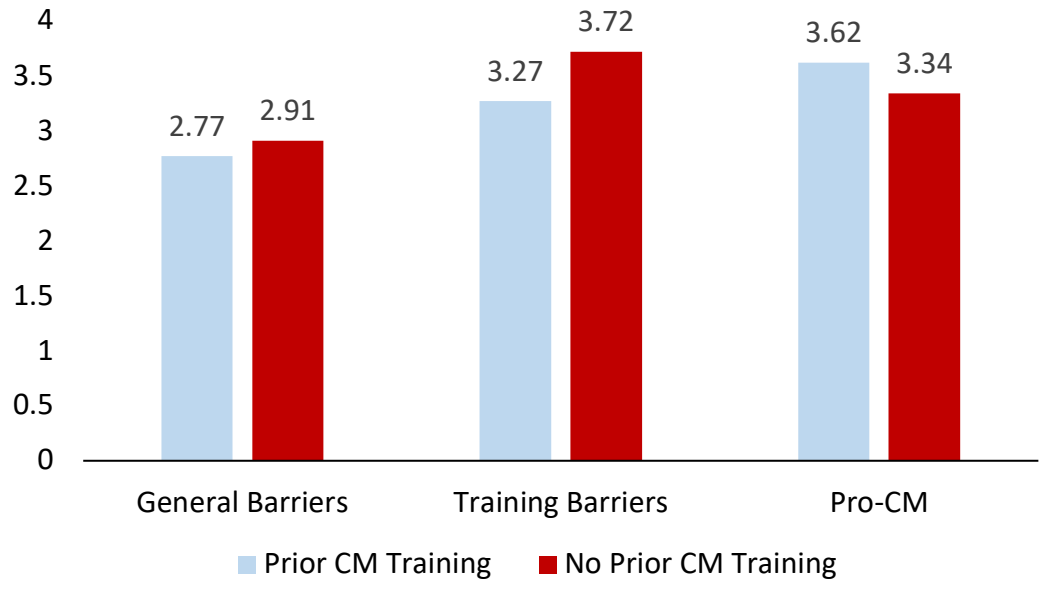


Figure 18.

CMBQ scale scores for providers with and without prior CM training.



MLM results. Two hundred thirty-seven providers (Level 1) from 90 ATPs (Level 2) across Canada were included in the analysis. Predictors for Level 1 included attitudes towards EBPs, education, therapeutic approach, and recovery status; the Level 1 outcome was CM beliefs.

General barriers toward CM. For the unconditional model, ATPs accounted for 27% of the variance. The inclusion of EBPAS improved the fit of the model ($\Delta\chi2(4) = 10.36$, $p = .03$). A significant effect was observed for the scores on the divergence scale *(*$t(112.41) = 2.86$, $p = .005$). Specifically, every 1-unit increase in divergence scores predicted a 0.39-unit increase in general barriers. The inclusion of demographic predictors further improved the model fit ($\Delta\chi^2(4) = 80.56$, $p < .001$). Divergence scale scores had a significant effect ($t(100.13) = 2.42$, $p = .018$). For every 1-unit increase in divergence scores, the model predicted a 0.42 increase in general barriers. There was no significant effect for demographic predictors. These results indicate that providers who believed that clinical experience was more important than EBPs endorsed more general barriers toward CM.

Training-related barriers toward CM. ATPs explained 9% of the variance in the unconditional model. Including EBPAS did not improve the model fit ($\Delta\chi^2(4) = 6.21$, $p = .184$), and no significant predictors were identified. The addition of demographic factors significantly improved the model fit ($\Delta\chi^2(8) = 110.57$, $p < .001$). Scores on the 12-step subscale had a significant effect ($t(84.46) = -2.18$, $p = .032$) in that every 1-unit increase predicted a 0.22 unit decrease in training barriers. This result indicates that greater endorsement of 12-step therapeutic orientation was associated with fewer training-related barriers toward CM.

Pro-CM statements. For the unconditional model, ATPs explained 21% of the variance. Model fit significantly improved following the inclusion of EBPAS ($\Delta\chi^2(4) = 23.22$, $p < .001$). Openness scores had a significant effect ($t(117.20) = 2.79$, $p = .006$) in that every 1-unit increase predicted a 0.36-unit increase in pro-CM scores. Divergence scores also had a significant effect ($t(123.53) = -2.59$, $p = .011$). Every 1-unit increase in divergence scores predicted a 0.34-unit decrease in pro-CM scores. The inclusion of demographic predictors significantly improved the fit of the model ($\Delta\chi^2(4) = 73.57$, $p < .001$). The effect of openness remained significant ($t(92.05) = 2.24$, $p = .027$). in that for every 1-unit increase for openness, a 0.35-unit increase in pro-CM scores would be predicted. Likewise, the effect of divergence scores remained significant ($t(109.79) = -2.04$, $p = .044$) with every 1-unit increase in divergence scores predicting a 0.35-unit decrease in pro-CM scores. No other significant predictors emerged. These results show that providers who believed that clinical experience was more important than EBPs endorsed fewer positive statements about CM.

Conclusions

These findings support the consideration of provider-level characteristics in the implementation of EBPs in Canadian settings. Overall, providers were relatively unfamiliar with CM and had neutral attitudes but expressed a willingness to learn about CM. Providers who believed that clinical experience was more important than EBPs endorsed more general barriers toward CM implementation and had fewer positive CM beliefs. Providers with more openness and greater overall positive attitudes towards adopting EBPs were more likely to endorse positive beliefs about CM. Overall positive attitudes toward EBPs were also associated with fewer general barriers and more positive beliefs about CM. Finally, greater endorsement of 12-step therapeutic orientation was associated with fewer training-related barriers toward CM. In conclusion, these results highlight the importance of integrating psychoeducation and training into implementation efforts to support CM interventions' success in Canadian clinical settings.

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Appendix A

Phase I: Site Interview Protocol

1. Education/discussion about CM – Power Point Presentation
2. Brief description of the program by program participants
3. Discussion about how CM might fit within the program.

Dimension I: Intervention characteristics

Definition: the advantage of intervention over other alternatives, can this intervention be piloted before full-scale implementation, strength of the research supporting intervention, quality of the research design and cost.

Questions:

On first impressions, do you see a place where CM might fit with your program? If yes, where? What would the goal/best outcome/indicator that it was worthwhile?
What resources are available or would be needed to launch the program? Maintain the program?

Notable features
Strengths
Barriers

Dimension V: Process

Definition: Planning, engaging the team and external change agents. Executing, reflecting and evaluating.

Questions:

Are there aspects of CM already used in your program?
If no, why not – philosophical reasons? Practical reasons?
If yes, what details would need to be worked out? Who would have to be on board/supportive of the plan?
Who would champion it (front line, management)? Who would be the "early adopters" hardest to convince?
What would be required to implement it? Manage and maintain it?
*Would you require training in ways to support this program financially? Are you concerned about the cost of CM**?***
What staff training would be helpful? Ongoing supervision?

Notable features
Strengths
Barriers

Dimension II: Outer Setting

Definition: Economic, political and social context of the community, broader organization (AHS), province

Questions:

Are there organizations/individuals who would be supportive or concerned about making program changes? Who would be aware of the program's involvement in this project? Would the program receive any external recognition for improving client outcomes?

Notable features
Strengths
Barriers

Appendix A

Dimension III: Inner Setting

Definition: Structural, political, and social context of the program, including implementation climate

Questions:

How are program policies or changes e.g., staff changes) communicated across the program, formally and informally? How does communication between senior management (board, middle management and frontline staff occur?

How stable is the program content?

How would you describe the culture of the program? (e.g., progressive, traditional) The climate? (Stressed, comfortable, uncertain, predictable)?

What are the existing ways outcomes are monitored?

Notable features

Strengths

Barriers

Dimension IV: Characteristics of Individuals

Definition: Program staff attributes, knowledge, self-efficacy, opinions, and identification within organization

Questions:

How stable are the staffing levels, and specific staff members? Degree of turn over?

Staff openness to change? Adaptability? Seeking of growth?

Notable features

Strengths

Barriers

Appendix B

Phase I: Quantitative Site Survey

Agency: _____

Role: _____

For the following questions, please answer using these responses:

N/A – Not Applicable 1 – Never, 2 – Rarely, 3- Sometimes, 4- A lot, 5 – Almost Always

		N/A	1	2	3	4	5
1.	How often do new interventions or techniques that the staff from your program learn at workshops get adopted for general use?						
2.	How often do new ideas learned from workshops get discussed or presented at your staff meetings?						
3.	How often does the management at your program recommend or support new ideas or techniques for use by all counselors?						

Please answer the following questions with the extent that you agree with each statement:

N/A - Not Applicable 1 – Strongly Disagree 2- Disagree 3 – Neutral 4 – Agree 5 – Strongly Agree

		N/A	1	2	3	4	5
1.	There are enough counsellors here to meet current client needs						
2.	A larger support staff is needed to help meet program needs						
3.	Frequent staff turnover is a problem for this program						
4.	Counsellors here are able to spend enough time with clients						
5.	Support staff here have the skills they need to do their jobs						
6.	Clinical staff here are well-trained						
7.	Staff training and continuing education are priorities at this program						
8.	I learned new skills or techniques at a professional conference in the past year						
9.	The budget here allows staff to attend professional conferences each year						
10.	This program holds regular in-service training						
11.	This program encourages and support professional growth						
12.	I read about new techniques and treatment information each month.						
13.	I have enough opportunities to keep my counselling skills up-to-date						

Appendix B

		N/A	1	2	3	4	5
14.	I regularly read professional journal articles or books on substance abuse treatment						
15.	I do a good job of regularly updating and improving my skills						
16.	I frequently share my knowledge of new counselling ideas with other staff						
17.	Staff generally regard me as a valuable source of information						
18.	Other staff often ask my advice about program procedures						
19.	Other staff often ask for my opinion about counseling and treatment issues						
20.	I often influence the decisions of other staff here						
21.	I am viewed as a leader by other staff here						
22.	I am willing to try new ideas even if some staff members are reluctant						
23.	Learning and using new procedures is easy for me						
24.	I am sometimes too cautious or slow to make change						
25.	I am able to adapt quickly when I have to shift focus						
26.	Some staff get confused about the main goals of this program						
27.	Program staff understand how this program fits as part of the treatment system in my community						
28.	My duties are clearly related to the goals of this program						
29.	This program operates with clear goals and objectives						
30.	Management here has a clear plan for this program						
31.	Treatment planning decisions for clients here often have to be revised by a counselor supervisor						
32.	Management here fully trust my professional judgement						
33.	Counselors here are given broad authority in treating their own clients						
34.	Counselors here often try out different techniques to improve their effectiveness						
35.	Staff members are given too many rules here						
36.	Ideas and suggestions from staff get fair consideration by program management						
37.	The formal and informal communication channels here work very well						
38.	Program staff are always kept well informed						
39.	More open discussions about program issues are needed here						
40.	Staff members always feel free to ask questions and express concerns in this program						
41.	I am under too many pressures to do my job effectively						
42.	Staff members often show signs of stress and strain						
43.	The heavy workload here reduces program effectiveness						
44.	Staff frustration is common here						
45.	Novel treatment ideas by staff are discouraged						
46.	It is easy to change procedures here to meet new conditions						
47.	I frequently hear good staff ideas for improving treatment						
48.	The general attitude here is to use new and changing technology						
49.	I am encouraged here to try new and different techniques						
50.	My program needs additional support in matching client needs with services						

Appendix B

		N/A	1	2	3	4	5
51.	My program needs to increase program participation by clients						
52.	My program could use better ways to measure client outcomes						
53.	My program could develop more effective group sessions						
54.	I need more training to increase client participation in treatment						
55.	I would like to improve my rapport with clients						
56.	In our program, pressures to change come from: Clients						
57.	Program Staff Members						
58.	Supervisors/Managers						
59.	Board Members						
60.	Community Groups						
61.	Funders						
62.	Accreditation/Licensing						
63.	The research evidence about Contingency Management's effectiveness does not apply to everyday clinic populations						
64.	I don't have time in my position for the extra work and effort involved in providing Contingency Management						
65.	Client's might sell/trade earned items for drugs						
66.	A lot of my clients are already abstinent at intake, so they don't need Contingency Management						
67.	Contingency Management is useful when targeting abstinence						
68.	Contingency Management is useful when targeting treatment goals other than abstinence (attendance, activities)						
69.	I find Contingency Management distasteful because it is basically paying someone to do what they should do already						
70.	Contingency Management is expensive (e.g., cost of prizes, vouchers)						
71.	I am not convinced by the research about Contingency Management's effectiveness with substance abusers						
72.	Contingency Management is good for the client-counselor relationship						
73.	Contingency Management is good for clients because they get excited about their treatment and progress						
74.	Providing prizes/vouchers undermines the clients' internal motivation to stay sober						
75.	I do not have time to administer voucher/prizes in a therapy session						
76.	My clinical experience with recovering addicts is more important than any research evidence						
77.	Clients will view Contingency Management as patronizing						
78.	I want more training before implementing Contingency Management						
79.	Contingency Management will help get clients in the door (motivate them to come to treatment)						
80.	Any source of motivation, including extrinsic motivation, is good if it helps get clients involved and responding to treatment						
81.	Contingency Management interventions create extra work for me						
82.	I am worried about what happens once the contingencies are withdrawn						

Appendix B

		N/A	1	2	3	4	5
83.	Contingency Management is not consistent with the predominant approach at my facility						
84.	I don't feel qualified or properly trained to administer Contingency Management interventions						
85.	Contingency Management is difficult to implement						
86.	Contingency Management might cause arguments among clients (e.g., when some get prizes and others do not)						
87.	I believe it is not right to give rewards for abstinence if clients are not meeting other treatment goals (e.g., group attendance)						
88.	Contingency Management doesn't address the underlying cause of addiction						
89.	Currently, no one in my facility has the experience to supervise Contingency Management						
90.	The community won't understand (i.e., the clinic will look bad for giving rewards to substance abusers)						
91.	Contingency Management is worth the time and effort if it works						
92.	I am in favour of adding Contingency Management interventions to our existing substance abuse treatment services						
93.	My agency/supervisors/administrators do not support Contingency Management (e.g., do not provide training, resources)						
94.	Our clinic rules prevent urine screening						
95.	Contingency Management focuses on the good in clients' behavior, and not just what went wrong						
96.	Contingency Management helps clients get sober so that they can work on other aspects of treatment						
97.	Contingency Management is helpful because it helps keep clients engaged in treatment long enough for them to really learn valuable skills						
98.	I like to use new types of therapy/interventions to help my clients						
99.	I am willing to try new types of therapy/interventions even if I have to follow a treatment manual						
100.	I know better than academic researchers how to care for my clients						
101.	I am willing to use new and different types of therapy/interventions developed by researchers						
102.	Research based treatments/interventions are not clinically useful						
103.	Clinical experience is more important than using manualized therapy/treatment						
104.	I would not use manualized therapy/interventions						
105.	I would try a new therapy/intervention even if it were very different from what I am used to doing						
	For questions 106-112, If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if:						
106.	It was intuitively appealing?						
107.	It " made sense" to you?						
108.	It was required by your supervisor?						

Appendix B

		N/A	1	2	3	4	5
	If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if:						
109.	It was required by your agency?						
110.	It was required by your province/city?						
111.	It was being used by colleagues who were happy with it?						
112.	You felt you had enough training to use it correctly?						

Appendix C

CONTINGENCY MANAGEMENT IMPLEMENTATION MANUAL

Appendix C

Introduction to Contingency Management

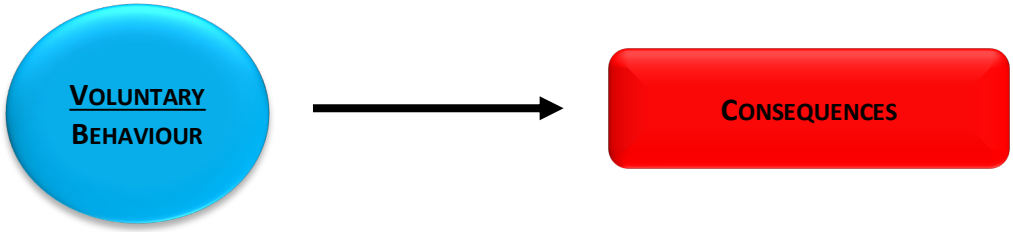
Contingency Management is an adjunct to your usual treatment methods in which you provide tangible reinforcers such as vouchers, goods, or privileges to clients for reaching concrete goals.

Incentives:

- Enhance treatment and facilitate recovery
- Provide clients with practical necessities (i.e., clothing, toiletries)
- Can impart hope where there may be none
- Celebrate an individual's success in changing targeted behaviour
- Can be used to motivate clients through stages of change

Founding Principle

- Operant Conditioning refers to an association between a voluntary behaviour and consequence



- The nature of the consequence will influence whether the behaviour occurs again.
- Contingency Management incentives are positive reinforcers (consequences) used to **increase** a desired behaviour

Appendix C

Seven Principles of Contingency Management

1. Identify Target Behaviour

   A target behaviour should be:

   - Problematic and in need of change
   - Observable
   - Measurable
   - Relatively easy for the client to accomplish (at least initially)

2. Choice of Target Population

   Examples:

   - Clients not responding to treatment
   - Newly enrolled clients
   - Users of a specific drug (e.g., patients enrolled in a methadone program that continue to use cocaine)
   - Vulnerable populations (e.g., pregnant women)
   - Repeat clients

3. Choice of Incentive

   - It is critical here to view the incentives from the client's perspective, or you will compromise effectiveness
   - To start, you should poll your clients to
     - Determine what incentives they will find meaningful.

   Three major types of incentive programs:

   a. Access to clinic privileges (e.g., a weekend pass).
   b. On-site prize distribution (e.g., a prize cabinet).
   c. Vouchers or other token economy systems (e.g., Points accumulated and redeemed for retail goods or services.)

4. Incentive Magnitude

   - Will determine the degree to which the intervention is effective
   - Should be able to compete with reinforcement derived from the behaviour targeted for change
   - Increases as the desired behaviour is repeated.

5. Frequency of Incentive Distribution

   - Can the targeted behaviour be reinforced frequently?
   - What method will be used to distribute incentives – vouchers, tokens?
   - How often will the incentive be distributed?

6. Timing of Incentive

   Immediacy is important

   - Provide incentive immediately after target behaviour is accomplished.
   - Poor timing can undermine the most well-planned intervention

7. Duration of Intervention

   How long do you continue with CM?

   - Until the client:
     - Internalizes the recovery process
     - Develops naturally-occurring reinforcers that support recovery

GETTING STARTED WITH THE PRIZES

Draw Box

- Should be large enough that you can fit your fist in. Opaque is best.

Lockable Draw Box Cabinet

- Enough space to hold draw box.

Prize/ Voucher Slips

- Draw box contains 500 slips

Ticket	Cost	Number of Slips	Chance (%)
Affirmation	$0	250	50%
Small	$1	209	41.8%
Medium	$5	30	6.0%
Large	$20	10	2.0%
Jumbo	$80-$100	1	0.2%

Appendix C

FIRST GROUP

End:

- Distribute Client Letter
- Describe letter and CM procedure.
- Get them to fill out *PILOT ONE: Creative Arts Goal- 1st Week Step Plan or PILOT TWO: Goal Completion – Weekly Step Plan*

    - **Sample of way to say:**

- *"Beginning next Thursday, we will be adding a new feature to your treatment.*
- *When you make steps towards completing your actions, you will have a chance to win vouchers. These vouchers will be used to purchase items!*
- *Research has found that offering prizes can be helpful to get clients to engage in their treatment.*
- *The exact details on how vouchers can be won is included the letter we handed out to you. (Hold up Client Letter). Please let me know if you have any questions.*
- *The voucher denominations are listed in the letter. You can save these vouchers up and they **must** be used to purchase items to assist in your creative arts and hobby goal. Once you have saved enough and found and item you wish to purchase staff will purchase this item for you. These vouchers are designed to give you some recognition for the progress you make in treatment. So now, we will go over how you can win vouchers*
- *PILOT ONE: "As I mentioned before, for the goal of creative arts, we will be breaking each action into weekly achievable steps. So for example if my action was 'learning to draw,' what would be some weekly steps I could take to could take to achieve this action? (LET THEM ANSWER).*
- *"Great idea! Thanks for your input! So now that you understand.*

Appendix C

- *PILOT TWO: "You will be asked to complete SIX action steps weekly. These steps can be from any goal area except Legal. So for example if you could have three actions from Recovery, two actions from financial, and one from spiritual. Actions are those you listed previously in group.*
- *I am going to get you to fill out the sheet I handed out [PILOT ONE: Creative Arts Goal- 1st Week Step Plan or PILOT TWO: Goal Completion – Weekly Step Plan). Starting by listing which goal area(s) you will be working on during the first week."*
- *After please fill out the step(s) for that goal that you will be taking and list how this can be verified. For instance, I could show the counsellors here that I made the step to get art supplies by showing them to the counsellors or that I looked into attending an art class by demonstrating knowledge about the class."*
- *"Does anyone want to share a goal and step? Thank you for sharing,*
- *"Great! So we will be setting [PILOT ONE: a step each week or PILOT TWO: six steps]. We will check in with you next week and see if [it is/ they are] completed. If [it is/ they are] you will earn [PILOT ONE: one slip PILOT TWO: two slips."*
- *"Here is how that will go."* ***Demonstrate drawing of slips****.*
- *"So I won a _____. Remember for each consecutive step you make you increase your chances of winning the large and jumbo voucher amount."*
- *Thank you again for your participation today. Have a great rest of your day and we look forward to your participation in your treatment"*

Appendix C

SECOND GROUP

- **Beginning**
  - Welcome everyone.
  - Remind them of the CM protocol and that you will be starting it today.

    - **Sample of way to say:**

> - *"Hello everyone and welcome to group. As I mentioned last week we will be adding a new feature to your goal setting.*
> - *To get you to engage in your treatment and complete your goal actions we will be giving you chances to win prizes each time you complete [PILOT ONE: a step or PILOT TWO: six steps] weekly.*
> - *We will go over your actions and steps and do our first draw at the end of group.*
> - *With that being said let's get started!"*

  - Proceed with group as usual.

- **End:**
  - Remind clients of CM (specifically the rules).
  - Get them to fill out *PILOT ONE: Creative Arts Goal- Weekly Check In or PILOT TWO: Goal Completion – Weekly Step Plan*

    - **Sample of way to say:**

> - *"Okay now it's time for the voucher draws!*
> - ***Bring out draw box.***
> - *For those of you who were not here last week, here is some information on this new feature of group. (Hand out client letter Appendix D). If you have any questions please ask me.*
> - *I want to take this time to go over the rules again.*

Appendix C

- *Each time you complete [PILOT ONE: a step each week or PILOT TWO: six steps], you will draw prize slip(s) from this draw box.*
- *The amount of draw slips depends on how many consecutive weeks you completed your steps. If you complete steps for two consecutive weeks, you will draw [PILOT ONE: two-prize slips PILOT TWO: four draw slips] from the draw box.*
- *If you complete steps in three consecutive weeks, you will draw PILOT ONE: three-prize slips PILOT TWO: six prize slips] from the draw box.*
- *And so on up to a maximum of [PILOT ONE: five; PILOT TWO: ten].*
- *If you do not complete a step(s), the next week you attend will be rest to [PILOT ONE: one; PILOT TWO: two] draw(s).*
- *Your steps must be verifiable. We must see that you completed the step(s) in some way.*
- *When you draw a prize slip, you have a chance of winning a good job slip, $1 voucher, $5 voucher, $20 voucher, or $100 voucher!*
- *You can save these vouchers up to make purchases later on. PILOT ONE: items purchased **must** be used to purchase items to assist in your creative arts and hobby goals.*
- *Once you have saved enough and found an item you wish to purchase staff will purchase this item for you.*
- *Okay before we begin the voucher draws, please fill out the sheet I gave you for next week's step(s). Make sure to document the action(s) you will be working on, the goal area, and how it will be verified*
- *Okay once you are done, we will begin!*

- **Procedure**

- Begin by asking who wants to go first.
- Ask them which [PILOT ONE: action; PILOT TWO: goal area] they are working on and what step they completed.
- Make sure to verify this in some way.
- If they completed their step get them to come to the front for the draw and make it a celebration!
- If they are wearing a long sleeved shirt, have them roll up their sleeves.
    - Watch them carefully as they draw (watch for potential cheating).
- **If they win a voucher**, provide them with the voucher (below) and document it using the Voucher Release Form (below)
- Also, hand out Voucher Reminders to those who did not complete a step or if they did not attend the previous week (below)
    - **Sample of way to say:**

AFTER SECOND GROUP

- Record data using the Research CM Group Attendance Sheet
- **If prizes were won**, remember to document it using the Voucher Release Form (below).
- Put draw box and vouchers away somewhere safe.

THIRD GROUP

- **Beginning**
    - Welcome everyone to group.
    - Have them sign the attendance sheet
    - Remind them of CM and that you will be continuing.
        - **Sample of way to say:**

- *"Hello everyone and welcome to group. Those who completed their step(s) last week will once again have a chance to win prizes!*
- *The prize draw will happen again at the end of group.*
- *With that being said let's get started!"*

- Proceed with group as usual.

- **End:**
  - Remind clients of CM (specifically the rules).
  - Have them fill out *PILOT ONE: Creative Arts Goal- Weekly Check In or PILOT TWO: Goal Completion – Weekly Step Plan*
    - **Sample of way to say:**

- *"Okay now it's time for the voucher draws!* ***Bring out box.***
- *If you completed your step(s) this week, you will draw [PILOT ONE: one prize slips PILOT TWO: two draw slips].*
- *If you completed steps the last two consecutive weeks, you will draw [PILOT ONE: two-prize slips PILOT TWO: four draw slips].*
- *If you did not complete your step(s), you will not draw and your next draw amount will reset to [PILOT ONE: one; PILOT TWO: two] draw(s).*
- *Steps must be verifiable. We must see that you completed your step(s).*
- *When you draw a prize slip, you have a chance of winning a good job slip, $1 voucher, $5 voucher, $20 voucher, or $100 voucher!*
- *You can save these vouchers up and make purchase requests later. PILOT ONE: items purchased* ***must*** *be used to purchase items to assist in your creative arts and hobby goals.*
- *Once you have saved enough and found an item you wish to purchase staff will purchase this item for you.*
- *For those who completed their step(s) this week, you will get [PILOT ONE: one; PILOT TWO: two] draw slip(s). For those completing two consecutive steps, you will draw [PILOT ONE: two-prize slips; PILOT TWO: four draw slips].*
- *Okay before we begin the voucher draws, please fill out the sheet I gave you for next week's step(s). Make sure to document the action(s) you will be working on, the goal area, and how it will be verified*
- *Okay once you are done, we will begin!*

Appendix C

- **Procedure**
  - Begin by asking who wants to go first.
  - Ask them which [PILOT ONE: action; PILOT TWO: goal area] they are working on and what step they completed.
  - Make sure to verify this in some way.
  - If step(s) are completed they come to the front to draw and make it a celebration!
  - If they are wearing a long sleeved shirt, have them roll up their sleeves.
    - Watch them carefully as they draw (watch for potential cheating).
  - **If they win a voucher**, provide them with the voucher (below) and document it using the Voucher Release Form (below)
  - Also, hand out Voucher Reminders to those who did not complete a step or if they did not attend the previous week (below)
    - **Sample of way to say:**

- *"Okay (John), thank you for volunteering to go first.!*
- *Okay, can you remind me of what step(s) you picked to work on and which [PILOT ONE: action; PILOT TWO: goal area] this step was from?"*
- "And how did that go? Did you complete [insert step(s)]?"
- *Can you verify it for me?*
- *Nicely done! Let's give a round of applause for (Bob)!*
- *Okay (Bob), because you completed your weekly step(s) this week and last week you get to draw [PILOT ONE: two prize slips PILOT TWO: four prize slips]*
- *I will get you to roll up your sleeves (if applicable).*
  - ***Mix up slips.***
- *Good luck!*
- ***If they win a prize:***
  - *Congratulations! Here is your Voucher and I will get you to sign this, documenting that you won ___, in case you lose your voucher. And don't forget that if you complete your step(s) next week, you will get [PILOT ONE: three-prize slips PILOT TWO: six draw slips]!*

- ***If they <u>don't</u> win a prize:***
    - *Oh no! I'm sorry. The good news is if you complete a step next week, you will get [PILOT ONE: three -prize slips PILOT TWO: six draw slips].*
- *Here is a reminder for next week's step(s)."*
- *To everyone: Thank you all for participating today! Have a good great day and we look forward to seeing you next week."*

AFTER THIRD GROUP

- Record data using the Research CM Group Attendance Sheet
- If prizes were won, remember to document it using the Voucher Release Form
- Put draw box and vouchers away somewhere safe.

FOURTH GROUP AND BEYOND

The protocol will continue in the same fashion. The only changes will be to number of draws as clients complete more weekly steps in a row (See the Protocol Table below)

Feel free to continue using the Sample Scripts, interchanging the number of weeks and draws for each client.

- **Beginning**
    - Welcome everyone to group.
    - Remind them of CM and that you will be continuing at the end of group.
    - Proceed with group as usual.

- **End:**
    - Remind clients of CM (specifically the rules).
    - Have participants fill out *PILOT ONE: Creative Arts Goal- Weekly Check In or PILOT TWO: Goal Completion – Weekly Step Plan*

Appendix C

- **Procedure**
  - Get each participant to discuss which the step(s) they completed and which [*PILOT ONE: action or PILOT TWO: goal area]* they are from.
  - Make sure to verify this in some way.
  - *Reference the last TWO/THREE/FOUR… etc. weeks using the [PILOT ONE: Creative Arts Goal- Weekly Check In or PILOT TWO: Goal Completion – Weekly Step Plan] to identify those that have completed multiple consecutive weekly steps!*

Protocol Table

Number of Meetings	Pilot 1 Prize Slip #	Pilot 2 Prize Slip #
First time completing steps	ONE	TWO
Two consecutive weeks completed	TWO	FOUR
Three consecutive weeks completed	THREE	SIX
Four consecutive weeks completed	FOUR	EIGHT
Five consecutive steps completed	FIVE	TEN
Five +	FIVE	TEN

  - Get them to come to the front and make it a celebration!
  - Watch them carefully as they draw (watch for potential cheating).
  - Record data using the Research CM Group Attendance Sheet
  - *If they win a voucher*, document it using the Voucher Release Form
  - *After they draw*, provide them with the Voucher or Reminder Slip
  - Also, hand out reminders to those who did not attend the previous week

Appendix C

Research CM Group Attendance Sheet

Client ID#:_____

Week	Date	Step completed (Y/N)	Step Verified (Y/N)	How was it Verified?	Number of Draws	Prize(s)/ Vouchers drawn	Comments
1							
2							
3							
4							
5							
6							

Appendix C

Client ID# :_____

Week	Date	Step Completed (Y/N)	Step Verified (Y/N)	How was it verified?	Number of Draws	Prize(s) drawn	Comments
7							
8							
9							
10							
11							
12							

Appendix C

PILOT ONE: Client Letter

Dear Participant,

Starting on _____, we will be offering you a chance to win gifts/money for making steps towards completing your creative arts actions. Because this seems to be a weaker area for men entering our program, we will be breaking each action into weekly achievable steps. For each weekly step you take, you will be given chances to win money (in the form of vouchers) to later purchase items to assist in the completion of this goal area. Researchers have found that offering prizes can be helpful for engaging clients in treatment and in reducing their substance use. We are trying this program at Fresh Start in the hopes that more people will complete their creative arts actions. This study is being conducted in partnership with the University of Calgary.

The prizes you could win range from affirmations (good job) to $1 vouchers, $5 voucher, $20 voucher and $100 voucher. Vouchers can be saved up to purchase larger items. Once you have saved enough and found an item you wish to purchase staff will purchase this item for you. The items purchased must be items related to your creative arts and hobbies. Each time you complete a step, you will have a chance of winning one of these voucher denominations. The more times in a row you complete your steps, the greater your chances of winning vouchers!

The first week you complete a step, you will get to draw ONE slip. If you complete steps two weeks in a row, you get to draw TWO slips. If you complete steps three weeks in a row, you get to draw THREE slips, and so on. To be mindful of our time in-group, the maximum number of draws you can achieve are FIVE for completing five consecutive steps. Steps and actions will be reviewed each week in group with Billy.

If you do not complete a step one week, your chances of winning will be reduced. Failure to complete a step one week will result in no draws for you that week. The next week that you complete a step, your number of draws will reset to ONE.

If you complete steps regularly, you may win multiple vouchers some weeks. The maximum number of draws you can reach is FIVE, and you could win FIVE vouchers that day!

We hope you enjoy this program and look forward to your participation in treatment!

Appendix C

PILOT TWO: Client Letter

Dear Participant,

Starting on _____, we will be offering you a chance to win gifts/money for completing your goals. To assist you in this we will be asking you to complete 6 steps a week which will be reviewed in group. For each week that you complete all 6 steps, you will be given chances to win money (in the form of vouchers) to later purchase items to assist in the completion of this goal area. Researchers have found that offering prizes can be helpful for engaging clients in treatment and in reducing their substance use. We are trying this program at Fresh Start in the hopes that more people will complete their goals. This study is being conducted in partnership with the University of Calgary.

The prizes you could win range from affirmations (good job) to $1 vouchers, $5 voucher, $20 voucher and $100 voucher. Vouchers can be saved up to purchase larger items. Once you have saved enough and found an item you wish to purchase staff will purchase this item for you. Each time you complete your six steps, you will have a chance of winning one of these voucher denominations. The more times in a row you complete your steps, the greater your chances of winning vouchers!

The first week you complete a step, you will get to draw TWO slips. If you complete steps two weeks in a row, you get to draw FOUR slips. If you complete steps three weeks in a row, you get to draw SIX slips, and so on. To be mindful of our time in-group, the maximum number of draws you can achieve is TEN for completing five consecutive weeks of 6 steps completed. Steps and actions will be reviewed each week in group with Billy.

If you do not complete all six steps one week, your chances of winning will be reduced. Failure to complete the six steps one week will result in no draws for you that week. The next week that you complete all six steps, your number of draws will reset to TWO.

If you complete steps regularly, you may win multiple vouchers some weeks. The maximum number of draws you can reach is TEN, and you could win TEN vouchers that day!

We hope you enjoy this program and look forward to your participation in treatment!

Appendix C

Fresh Start Recovery Centre Contingency Management Treatment Manual

PILOT ONE: Creative Arts Goal- 1st Week Step Plan

Which action will we work on during the first week?

Action 1:

_____

_____

Week one step:

_____

_____

How will this step be verified?

_____

_____

Appendix C

Fresh Start Recovery Centre **Contingency Management Treatment Manual**

PILOT ONE: Creative Arts Goal - Weekly Check-in

Week Number: _____

Action: _____

_____

Weekly Step: _____

_____

Process: _____

_____

_____

Step Taken (circle one): Yes / No

How will this be verified: _____

_____

_____

Next Week's ACTION (If different) and STEP:

_____

_____

Appendix C

Fresh Start Recovery Centre Contingency Management Treatment Manual

PILOT TWO: Goal Completion – Weekly Step Plan

	Area	Actions	How will this be verified?	S	M	A	R	T
1								
2								
3								
4								
5								
6								

WEEK #

S = SPECIFIC M =MEASURABLE A= ATTAINABLE R= RELEVANT T = TIME-BOUND

Appendix C

Vouchers

- Make sure to initial the back and have them sign the back.

Appendix C

- Make sure to initial the back and have them sign the back.

Appendix C

- Make sure to initial the back and have them sign the back.

Appendix C

- Make sure to initial the back and have them sign the back.

Appendix C

Voucher Inventory Log

Description	Date it was Drawn	Client Initials	Staff Initials	Problem?

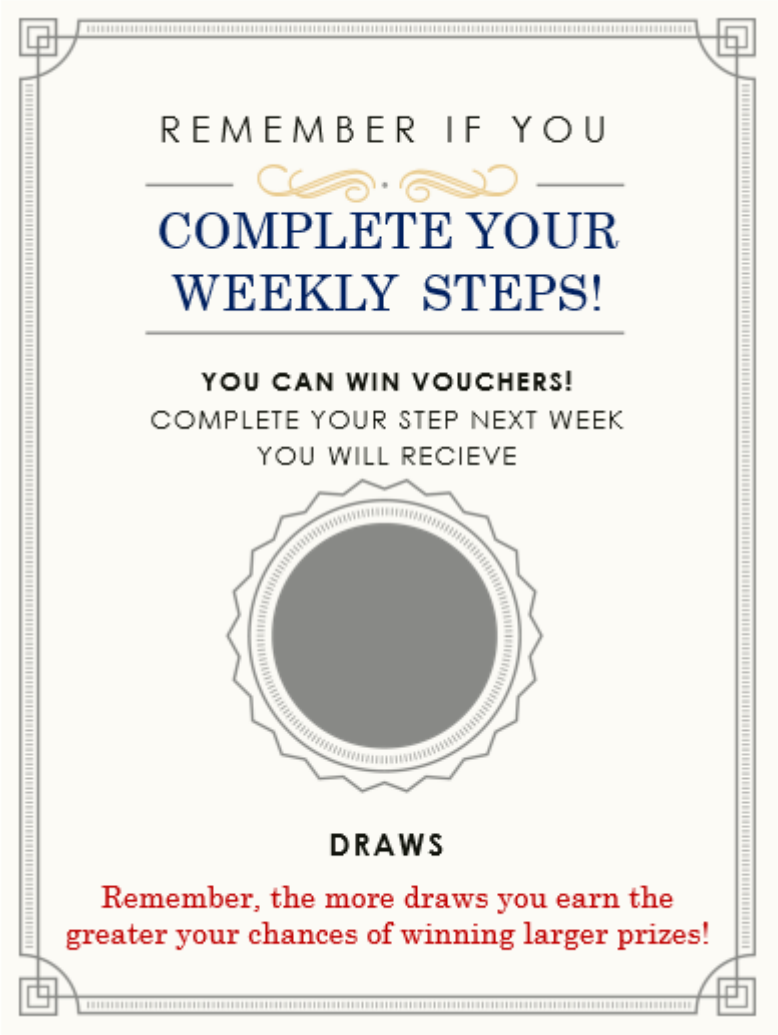
Instructions:

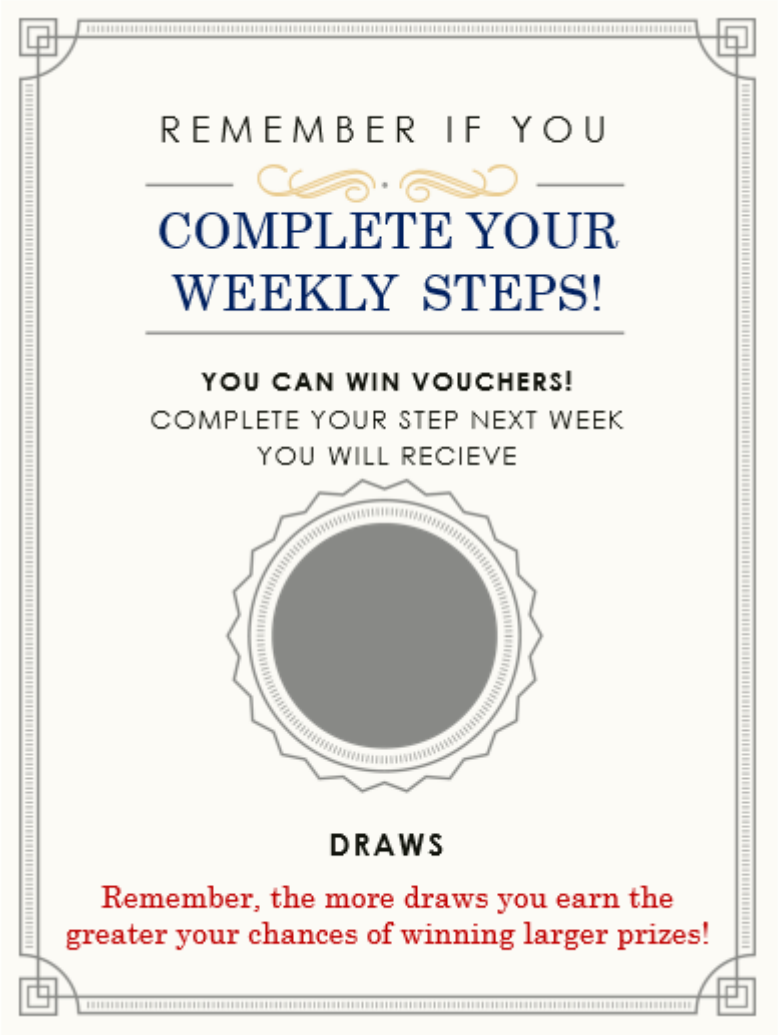
1. Description= Voucher amount
2. Enter each voucher amount on its own line. You will need to use multiple sheets.

Appendix C

Voucher Reminders

Appendix C


REMEMBER IF YOU
COMPLETE YOUR WEEKLY STEPS!
YOU CAN WIN VOUCHERS!
COMPLETE YOUR STEP NEXT WEEK
YOU WILL RECIEVE
DRAWS
Remember, the more draws you earn the greater your chances of winning larger prizes!


REMEMBER IF YOU
COMPLETE YOUR WEEKLY STEPS!
YOU CAN WIN VOUCHERS!
COMPLETE YOUR STEP NEXT WEEK
YOU WILL RECIEVE
DRAWS
Remember, the more draws you earn the greater your chances of winning larger prizes!

Appendix D

AVENTA

CENTRE OF EXCELLENCE FOR WOMEN WITH ADDICTIONS

CONTINGENCY MANAGEMENT IMPLEMENTATION MANUAL

Appendix D

Introduction to Contingency Management

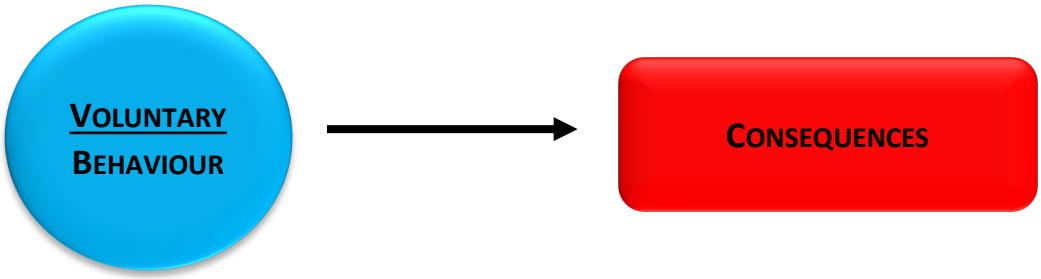
Contingency Management is an adjunct to your usual treatment methods in which you provide tangible reinforcers such as vouchers, goods, or privileges to clients for reaching concrete goals.

Incentives:

- Enhance treatment and facilitate recovery
- Provide clients with practical necessities (i.e., clothing, toiletries)
- Can impart hope where there may be none
- Celebrate an individual's success in changing targeted behaviour
- Can be used to motivate clients through stages of change

Founding Principle

- Operant Conditioning refers to an association between a voluntary behaviour and consequence



- The nature of the consequence will influence whether the behaviour occurs again.
- Contingency Management incentives are positive reinforcers (consequences) used to **increase** a desired behaviour

Appendix D

Seven Principles of Contingency Management

1. Identify Target Behaviour

   A target behaviour should be:

   - Problematic and in need of change
   - Observable
   - Measurable
   - Relatively easy for the client to accomplish (at least initially)

2. Choice of Target Population

   Examples:

   - Clients not responding to treatment
   - Newly enrolled clients
   - Users of a specific drug (e.g., patients enrolled in a methadone program that continue to use cocaine)
   - Vulnerable populations (e.g., pregnant women)
   - Repeat clients

3. Choice of Incentive

   - It is critical here to view the incentives from the client's perspective, or you will compromise effectiveness
   - To start, you should poll your clients to
     - Determine what incentives they will find meaningful.

   Three major types of incentive programs:

   a) Access to clinic privileges (e.g., a weekend pass).
   b) On-site prize distribution (e.g., a prize cabinet).
   c) Vouchers or other token economy systems (e.g., Points accumulated and redeemed for retail goods or services.)

4. Incentive Magnitude

   - Will determine the degree to which the intervention is effective
   - Should be able to compete with reinforcement derived from the behaviour targeted for change
   - Increases as the desired behaviour is repeated.

5. Frequency of Incentive Distribution

   - Can the targeted behaviour be reinforced frequently?
   - What method will be used to distribute incentives?
   - How often will the incentive be distributed?

6. Timing of Incentive

   Immediacy is important

   - Provide incentive immediately after target behaviour is accomplished.
   - Poor timing can undermine the most well-planned intervention

7. Duration of Intervention

   How long do you continue with CM?

   - Until the client:
     - Internalizes the recovery process
     - Develops naturally-occurring reinforcers that support recovery

GETTING STARTED WITH THE PRIZES

Draw Box

- Should be large enough that you can fit your fist in. Opaque is best.

Lockable Draw Box Cabinet

- Enough space to hold draw box.

Prize/ Voucher Slips

- Draw box contains 500 slips

Ticket	Cost	Number of Slips	Chance (%)
Affirmation	$0	250	50%
Small	$1	209	41.8%
Medium	$5	30	6.0%
Large	$20	10	2.0%
Jumbo	$80-$100	1	0.2%

FIRST GROUP

Beginning:

- Take attendance (Regular Attendance and Research Attendance log)

End:

- Distribute Client Letter
- Describe letter and CM procedure and get clients to help with Inventory Checklist.

- **Sample of way to say:**

- *"Beginning next week, we will be adding a new feature to your aftercare group.*
- *If you attend group, you will have a chance to win prizes!*
- *Research has found that offering prizes can be helpful to get clients to engage in their treatment.*
- *The exact details on how prizes can be won is included the letter we handed out to you. (Hold up Letter). Please let me know if you have any questions.*
- *Right now, we need your help. We are trying to get an idea of what prizes the group would like a chance to win. We are going to read out a number of items, would like each of you to indicate which items you would want by raising your hand.*
    - *Count each hand that is raised (for each item).*
- *Thank you for your help! These prizes are designed to give you some recognition for the progress you make in treatment.*
- *If you did not sign in at the beginning of group, please do so before leaving. Have a good evening and we look forward to your participation in group"*

After Group One

- Make sure you recorded attendance using the Research Attendance Sheet
- Go through Inventory Checklist:
    - Cross-reference it with the therapist's inventory checklist to see if there were any items deemed inappropriate.

Getting Started with the Prizes

Prize Bowl

- Should be large enough that you can fit your fist in. Opaque is best.

Appendix D

Lockable Prize Cabinet

- Enough space to hold all prizes.
- You will need 2 shelves for small prizes, 1 for medium prizes and 1 for large.
- Lock the fishbowl in the cabinet when not in use to avoid tampering.
- *Initial cost is about $400 to start a prize cabinet for about 15 patients. Our cost may be roughly $535, based on this cost.*

Purchase

Prize Item	# of Different types	Average Value
Small	25	Ranging from 50 cents to $1 *
Medium	5-10	$5 per item
Large	8 - 12	$20 per item
Jumbo	2	Ranging from $60 to $80 per item

  - Do not exceed $1.20 for small items
  - You should have 40-50 items for clients to choose from.
  - Don't buy more than a few of each item, once you know what the most popular items are, you can adjust your inventory.
- Once prizes are purchased fill out the Small, Medium, Large and Jumbo Prize Inventory.

SECOND GROUP

- **Beginning**
  - Welcome everyone to group and have them sign the attendance sheet
  - Remind them of CM and that you will be starting it today.
    - **Sample of way to say:**

- *"Hello everyone and welcome. Before we begin, I want to make sure everyone has signed the attendance sheet. If you have not done so, please do so now.*
- *As I mentioned last week we will be adding a new feature to your aftercare group.*
- *To get you to engage in your treatment and attend group we will be giving you chances to win prizes each time you attend group!*
- *We will explain how prizes are won and we will have our first draw after group.*
- *With that being said let's get started!"*

  - Proceed with group as usual.

- **End:**
  - Remind clients of CM (specifically the rules).
    - **Sample of way to say:**

- *"Okay now it's time for the prize draws!*
- ***Bring out Prizes***
- *For those who were not here last week, here is some information on this new feature. (Hand out client letter). If you have any questions, please ask me.*
- *I want to take this time to go over the rules again.*
- *Each time you come to group, you will draw ONE prize slip from this fish bowl.*
- *If you come to group twice in a row, you will draw TWO-prize slips*
- *If you come three times in a row, you will draw THREE-prize slips and so on.*
- *Up to a maximum of five draw slips.*
- *If you miss group without an approved absence, and the next week you attend group your draw slips will reset to ONE draw.*
- *You must let me know you will not be attending group before it starts and you must have a valid reason like illness or appointment.*
- *When you draw a prize slip, you have a chance of winning a good job slip, small prize, large prize or a jumbo prize!*
  - *Point to prizes in their respected areas when saying this.*
- *For those who attended last week, you will get to draw ONE slip this evening!*

- **Procedure**
  - Going off last week's sign in sheet, read out each name.
  - Get them to come to the front and make it a celebration!
  - If they are wearing anything long sleeved, have them roll up their sleeves.
    - Watch them carefully as they draw (watch for potential cheating).
  - **If they win a prize**, document it using the Prize Release Form.

- **After they draw**, provide them with the Prize Reminder Slip
- Also, hand out reminders to those who did not attend the previous week.
    - **Sample of way to say:**

- *"First up is Susan! Let's give a round of applause for Susan!* ***Clap***
- *Okay (Susan), because you attended group last week you get to draw ONE slip.*
- *I will get you to roll up your sleeves (if applicable).*
    - ***Mix up slips.***
- *Good luck!*
- ***If they win a prize:***
    - *Congratulations! You can choose any prize from the (small, large, jumbo) prize desk/cupboard. And don't forget that if you attend group next week, you will get TWO prize slips! Doubling your chances of winning*
- ***If they <u>don't</u> win a prize:***
    - *Oh no! I'm sorry. The good news is if you attend group next week, you will get TWO prize slips! Doubling your chances of winning!*
- *Here is a reminder for next week's group."*
- *To everyone: Thank you for attending group this evening!*
- *If you did not sign in at the beginning of group, please do so before leaving. Have a good evening and we look forward to seeing you next Thursday at*

AFTER SECOND GROUP

- Take attendance sheet and record attendance using the Research Attendance Sheet
- **If prizes were won**, remember to document it using the Prize Release Form
- Take prizes and put them away.

Appendix D

THIRD GROUP

- **Beginning**
  - Welcome everyone to group.
  - Have them sign the attendance sheet
  - Remind them of CM and that you will be continuing.
    - **Sample of way to say:**

> - *"Hello everyone and welcome. Before we begin, I want to make sure everyone had a chance to sign the attendance sheet. If you have not done so, please do so now.*
> - *Those who attended last week will once again have a chance to win prizes!*
> - *Those that attended the last two groups will receive TWO slip draws!*
> - *The prize draw will happen again at the end of group.*
> - *With that being said let's get started!"*

  - Proceed with group as usual.

- **End:**
  - Remind clients of CM (specifically the rules).
    - **Sample of way to say:**

> - *"Okay now it's time for the prize draws!* ***Bring out Prizes***
> - *For those who were not here last week, here is some information on this new feature. (Hand out client letter). If you have questions, please ask me.*
> - *To go over the rules again, those who came to group twice in a row will get two slips. Those who came to group last week only, will get ONE slip.*
> - *Also, just a reminder that if you miss group without an approved absence, the next week you attend will be reset to ONE draw.*
> - *When you draw a prize slip, you have a chance of winning a good job slip, small prize, large prize or a jumbo prize!*
>   - *Point to prizes in their respected areas when saying this.*
> - *Okay let's begin!"*

Appendix D

- **Procedure**
  - Going off the last week's sign in sheet, read out each name.
    - **Reference the last TWO weeks to identify those that have attended twice!**
  - Get them to come to the front and make it a celebration!
  - Watch them carefully as they draw (watch for potential cheating).
  - **If they win a prize**, document it using the Prize Release Form.
  - **After they draw**, provide them with the Prize Reminder Slip.
  - Hand out reminders to those who did not attend last week.
    - **Sample of way to say:**

- *"First up is Susan! Let's give a round of applause for Susan!* ***Clap***
- *Okay (Susan), because you attended group* ***(last week/ twice in a row)*** *you get to draw* ***(ONE/TWO)*** *slip.*
- *I will get you to roll up your sleeves (if applicable).*
  - ***Mix up slips.***
- *Good luck!*
- ***If they win a prize:***
  - *Congratulations! You can choose any prize from the (small, large, jumbo) prize desk/cupboard. And don't forget that if you attend group next week, you will get (****TWO/THREE)*** *prize slips! Increasing your chances of winning*
- ***If they don't win a prize:***
  - *Oh no! I'm sorry. The good news is if you attend group next week, you will get (****TWO/ THREE)*** *prize slips! Increasing your chances of winning!*
- *Here is a reminder for next week's group.* ***Give Prize Reminder Slip***
- *To everyone: Thank you for attending group this evening!*
- *If you did not sign in at the beginning of group, please do so before leaving. Have a good evening and we look forward to seeing you next Thursday at _____"*

Appendix D

AFTER THIRD GROUP

- Take attendance sheet and record attendance using the Research Attendance Sheet
- **If prizes were won,** remember to document it using the Prize Release Form
- Take prizes and put them away.

FOURTH GROUP AND BEYOND

Groups will continue in the same fashion. The only changes will be to number of draws as clients come to more in a row (See the Protocol Table below)

Continue to use the Sample scripts, interchanging the number of weeks and draws for each client.

- **Beginning**
  - Welcome everyone to group.
  - Have them sign the attendance sheet
  - Remind them of CM and that you will be continuing at the end of group.
  - Proceed with group as usual.
- **End:**
  - Remind clients of CM (specifically the rules).
  - Hand out information sheet to those who have not yet attended and do not know the protocol.
- **Procedure**
  - Going off the last week's sign in sheet, read out each name.
  - *Reference the last TWO/THREE/FOUR… etc. weeks to identify those that have attended multiple in a row!*

Protocol Table

Number of Meetings Attended	Prize Slip #
First time attending	ONE
Twice in a row	TWO
Three times in a row	THREE
Four times in a row	FOUR
Five times in a row	FIVE
Five +	FIVE

Appendix D

- Get them to come to the front and make it a celebration!
- Watch them carefully as they draw (watch for potential cheating).
- *If they win a prize*, document it using the Prize Release Form.
- *After they draw*, provide them with the Prize Reminder Slip.
- Also, hand out reminders to those who did not attend the previous we

Appendix D

Group Attendance Sheet

ID Number	Name (Print)	Signature	Date

Appendix D

Research CM Group Attendance Sheet

Client ID#:_____

Week	Date	Attended (Y/N)	Excused Absence (Y/N)	Number of Draws	Prize(s) drawn	Comments
1						
2						
3						
4						
5						
6						

Appendix D

Client ID# :_____

Week	Date	Attended (Y/N)	Excused Absence (Y/N)	Number of Draws	Prize(s) drawn	Comments
7						
8						
9						
10						
11						
12						

Appendix D

Client letter

Dear_____ ,

Starting on ____(date)____, we will be offering you a chance to win gifts for coming to your continuing care group on Thursdays at _____. Researchers have found that offering prizes can be helpful for engaging clients in treatment and in reducing their substance use. We are trying this program at Aventa in the hopes that more people will stick with the aftercare group and have more recovery days. This study is being conducted in partnership with the University of Calgary.

The prizes you could win range from affirmations to small, large and jumbo prizes. Small prizes are things such as toiletry items, candy and chocolate bars. Medium prizes are worth about $5 and include coffee gift cards, a journal, mug etc. Large prizes are worth about $20 and include gift cards, small appliances, and other household items. A jumbo prize may be a digital camera, designer purse, etc.

Each time you come to group, you will have a chance of winning one of these prizes. Each week, you will get to draw a slip from a box and you will win a prize. The more times in a row you come to group, the greater your chances of winning prizes!

The first week you come to group, you will get to draw ONE slip. If you come to group two weeks in a row, you get to draw TWO slips. If you attend group three weeks in a row, you get to draw THREE slips, and so on. To be mindful of our time in-group, the maximum number of draws you can achieve is FIVE for attending five consecutive weeks.

If you miss group, your chances of winning prizes will be reduced. Failure to attend a group session without notifying the counsellor prior to the start of group with an approved absence will result in no draws for you that week. The next week that you attend, your number of draws will reset to ONE.

If you attend groups regularly, you may win multiple prizes some weeks. The maximum number of draws you can reach is FIVE, and you would win FIVE prizes that day!

We hope you enjoy this program and look forward to your participation in group!

Appendix D

Inventory checklist

We are starting a program soon where you will be able to earn incentives from attending group! We want to know from you, what types of gifts or incentives you would want. Please put a checkmark next to your favourite items in the list below:

Small prizes – Please check your top <u>five</u> favourite items from the list below. You do not need to rank them, just a check mark will do

_____ soaps/ body wash
_____ shampoo/ conditioner
_____ tooth paste
_____ tooth brush
_____ dental floss
_____ hair brush/comb
_____ bubble bath
_____ bath bomb
_____ shaving gel
_____ hand/ body lotion
_____ hair accessories
_____ pads of paper
_____ notebooks
_____ small calendars
_____ small make-up items
_____ lip balm
_____ potato chips
_____ chocolate bars, preferred types _____
_____ juice
_____ candies, preferred types _____
_____ chewing gum
_____ socks
_____ key rings
_____ coffee mugs
_____ kitchen items (spatulas, dish soap, sponges, etc.)
_____ tissues
_____ liquid hand soap

Medium prizes – Please check your top <u>three</u> favourite items from the list below.

_____ $5 gift cards to local movie theatre – Canyon Meadows
_____ $5 gift card to fast food. (List favourites: _____)
_____ $5 gift card for iTunes/ Amazon
_____ $5 coffee card

_____ Transit pass
_____ USB Memory stick
_____ File organizer
_____ Make-up
_____ Travel mug
_____ Jewellery
_____ Mini Tool kit
_____ Journal
_____ Cards / stationery sets
_____ Board games
_____ Popular kid's toys (List favourites: _____)
_____ Pencil crayons/markers
_____ Adult colouring books
_____ Bed/Pillows
_____ Loom/Yarn

Large prizes – Please check your top <u>three</u> favourite items from the list below.

_____ $20 gift card to local movie theatre
_____ $20 gift card to restaurant. (List favourites :_____)
_____ $20 gift card to Indigo/Chapters
_____ $20 gift card to Shoppers Drug Mart
_____ $20 gift card to Superstore/Walmart
_____ $20 gift card to children's store (List favourites :_____)
_____ $20 pay as you go phone card
_____ $20 gas card
_____ Basketball
_____ Soccer ball
_____ Kitchen pot/ pans
_____ Silverware set
_____ Portable fan
_____ Coffee maker
_____ Hair dryer
_____ Curling iron
_____ Alarm clock
_____ Rice cooker
_____ Bluetooth speaker
_____ Bed sheets
_____ Towel set
_____ Electric kettle
_____ Travel water bottle
_____ Yoga mat
_____ Lamp

Appendix D

_____ Blanket/Throw
_____ Toaster
_____ Headphones/ earbuds
_____ Watch

Jumbo prizes – Please check your top <u>two</u> favourite items from the list below.

_____ Microwave
_____ Toaster oven
_____ Bluetooth speaker
_____ Fitbit
_____ Humidifier
_____ Brand name purse/backpack/wallet
_____ MP3 player/ iPod shuffle
_____ Essential oil diffuser
_____ Massage
_____ Mani/Pedi

Appendix D

Prize release form

Small Prize Inventory Log

Description	Cost	Date of Purchase	Date Selected	Client Initials	Audits Date	Date	Date	Date	Problem?

Instructions:

1. Enter each prize on its own line. You will need to use multiple sheets.
2. All items listed on PIL should be in cabinet.
3. Prize Release Forms should be reconciled with each item selected by client.
4. Audit Dates: To be done semi-monthly, to ensure inventory in cabinet matches Inventory Log. Once an item has been chosen by a client, indicate NA in the remaining Audit Date boxes.

Appendix D

Prize release form

Medium Prize Inventory Log

					Audits				
Description	Cost	Date of Purchase	Date Selected	Client Initials	Date	Date	Date	Date	Problem?

Instructions:

1. Enter each prize on its own line. You will need to use multiple sheets.
2. All items listed on PIL should be in cabinet.
3. Prize Release Forms should be reconciled with each item selected by client.
4. Audit Dates: To be done semi-monthly, to ensure inventory in cabinet matches Inventory Log. Once an item has been chosen by a client, indicate NA in the remaining Audit Date boxes.

Appendix D

Prize release form

Large Prize Inventory Log

					Audits				
Description	Cost	Date of Purchase	Date Selected	Client Initials	Date	Date	Date	Date	Problem?

Instructions:

1. Enter each prize on its own line. You will need to use multiple sheets.
2. All items listed on PIL should be in cabinet.
3. Prize Release Forms should be reconciled with each item selected by client.
4. Audit Dates: To be done semi-monthly, to ensure inventory in cabinet matches Inventory Log. Once an item has been chosen by a client, indicate NA in the remaining Audit Date boxes.

Appendix D

Prize release form

Jumbo Prize Inventory Log

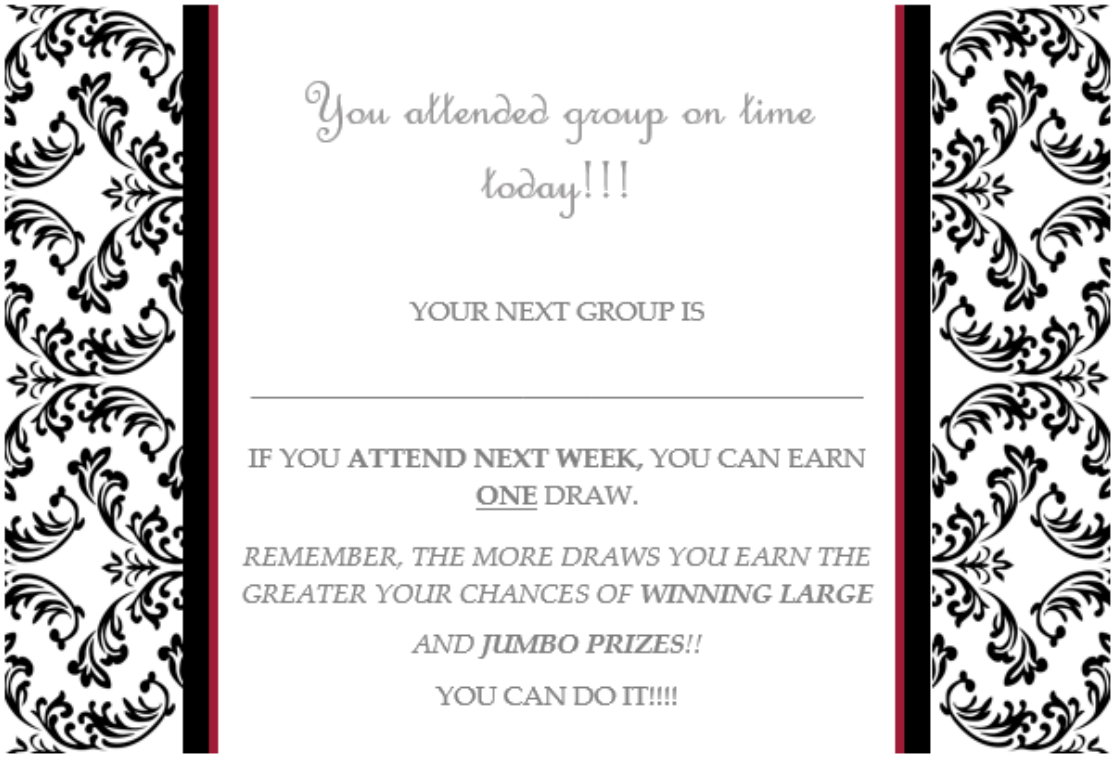
					Audits				
Description	Cost	Date of Purchase	Date Selected	Client Initials	Date	Date	Date	Date	Problem?

Instructions:

1. Enter each prize on its own line. You will need to use multiple sheets.
2. All items listed on PIL should be in cabinet.
3. Prize Release Forms should be reconciled with each item selected by client.
4. Audit Dates: To be done semi-monthly, to ensure inventory in cabinet matches Inventory Log. Once an item has been chosen by a client, indicate NA in the remaining Audit Date boxes.

Appendix D

Prize Reminder for First Week Attended



Appendix D

Prize Reminder for Second Week Attended and Beyond

Appendix E

Alberta Health Services

CONTINGENCY MANAGEMENT IMPLEMENTATION MANUAL

Appendix E

Introduction to Contingency Management

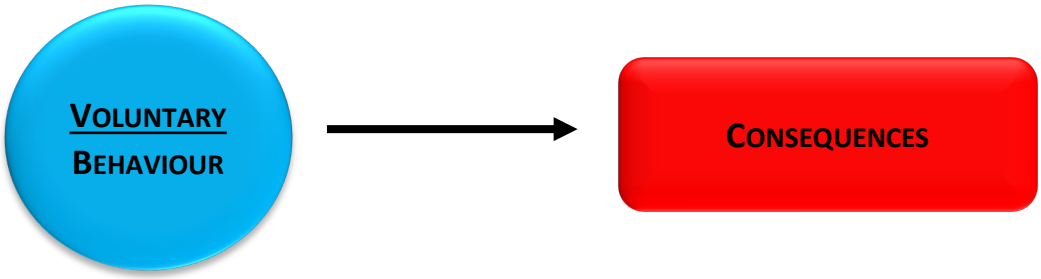
Contingency Management is an adjunct to your usual treatment methods in which you provide tangible reinforcers such as vouchers, goods, or privileges to clients for reaching concrete goals.

Incentives:

- Enhance treatment and facilitate recovery
- Provide clients with practical necessities (i.e., clothing, toiletries)
- Can impart hope where there may be none
- Celebrate an individual's success in changing targeted behaviour
- Can be used to motivate clients through stages of change

Founding Principle

- Operant Conditioning refers to an association between a voluntary behaviour and consequence



- The nature of the consequence will influence whether the behaviour occurs again.
- Contingency Management incentives are positive reinforcers (consequences) used to **increase** a desired behaviour

Appendix E

SEVEN PRINCIPLES OF CONTINGENCY MANAGEMENT

8. Identify Target Behaviour

A target behaviour should be:

- Problematic and in need of change
- Observable
- Measurable
- Relatively easy for the client to accomplish (at least initially)

9. Choice of Target Population

Examples:

- Clients not responding to treatment
- Newly enrolled clients
- Users of a specific drug (e.g., patients enrolled in a methadone program that continue to use cocaine)
- Vulnerable populations (e.g., pregnant women)
- Repeat clients

10. Choice of Incentive

- It is critical here to view the incentives from the client's perspective, or you will compromise effectiveness
- To start, you should poll your clients to
  - Determine what incentives they will find meaningful.

Three major types of incentive programs:

d) Access to clinic privileges (e.g., a weekend pass).
e) On-site prize distribution (e.g., a prize cabinet).
f) Vouchers or other token economy systems (e.g., Points accumulated and redeemed for retail goods or services.)

11. Incentive Magnitude

- Will determine the degree to which the intervention is effective
- Should be able to compete with reinforcement derived from the behaviour targeted for change
- Increases as the desired behaviour is repeated.

12. Frequency of Incentive Distribution

- Can the targeted behaviour be reinforced frequently?
- What method will be used to distribute incentives?
- How often will the incentive be distributed?

13. Timing of Incentive

Immediacy is important

- Provide incentive immediately after target behaviour is accomplished.
- Poor timing can undermine the most well-planned intervention

14. Duration of Intervention

How long do you continue with CM?

- Until the client:
  - Internalizes the recovery process
  - Develops naturally-occurring reinforcers that support recovery

GETTING STARTED WITH THE PRIZES

Draw Box

- Should be large enough that you can fit your fist in. Opaque is best.

Lockable Draw Box Cabinet

- Enough space to hold draw box.

Prize/ Voucher Slips

- Draw box contains 500 slips

Ticket	Cost	Number of Slips	Chance (%)
Affirmation	$0	250	50%
Small	$1	209	41.8%
Medium	$5	30	6.0%
Large	$20	10	2.0%
Jumbo	$80-$100	1	0.2%

FIRST GROUP

Beginning:

- Take attendance (Regular Attendance and Research Attendance log)

End:

- Distribute Client Letter
- Describe letter and CM procedure and get clients to help with Inventory Checklist.

- **Sample of way to say:**

- *"Beginning next week, we will be adding a new feature to your aftercare group.*
- *If you attend group, you will have a chance to win prizes!*
- *Research has found that offering prizes can be helpful to get clients to engage in their treatment.*
- *The exact details on how prizes can be won is included the letter we handed out to you. (Hold up Letter). Please let me know if you have any questions.*
- *Right now, we need your help. We are trying to get an idea of what prizes the group would like a chance to win. We are going to read out a number of items, would like each of you to indicate which items you would want by raising your hand.*
    - *Count each hand that is raised (for each item).*
- *Thank you for your help! These prizes are designed to give you some recognition for the progress you make in treatment.*
- *If you did not sign in at the beginning of group, please do so before leaving. Have a good evening and we look forward to your participation in group"*

After Group One

- Make sure you recorded attendance using the Research Attendance Sheet
- Go through Inventory Checklist:
    - Cross-reference it with the therapist's inventory checklist to see if there were any items deemed inappropriate.

Getting Started with the Prizes

Prize Bowl

- Should be large enough that you can fit your fist in. Opaque is best.

Appendix E

Lockable Prize Cabinet

- Enough space to hold all prizes.
- You will need 2 shelves for small prizes, 1 for medium prizes and 1 for large.
- Lock the fishbowl in the cabinet when not in use to avoid tampering.
- *Initial cost is about $400 to start a prize cabinet for about 15 patients. Our cost may be roughly $535, based on this cost.*

Purchase

Prize Item	# of Different types	Average Value
Small	25	Ranging from 50 cents to $1 *
Medium	5-10	$5 per item
Large	8 - 12	$20 per item
Jumbo	2	Ranging from $60 to $80 per item

  - Do not exceed $1.20 for small items
  - You should have 40-50 items for clients to choose from.
  - Don't buy more than a few of each item, once you know what the most popular items are, you can adjust your inventory.
- Once prizes are purchased fill out the Small, Medium, Large and Jumbo Prize Inventory.

SECOND GROUP

- **Beginning**
  - Welcome everyone to group and have them sign the attendance sheet
  - Remind them of CM and that you will be starting it today.
    - **Sample of way to say:**

- *"Hello everyone and welcome. Before we begin, I want to make sure everyone has signed the attendance sheet. If you have not done so, please do so now.*
- *As I mentioned last week we will be adding a new feature to your aftercare group.*
- *To get you to engage in your treatment and attend group we will be giving you chances to win prizes each time you attend group!*
- *We will explain how prizes are won and we will have our first draw after group.*
- *With that being said let's get started!"*

  - Proceed with group as usual.

- **End:**
  - Remind clients of CM (specifically the rules).
    - **Sample of way to say:**

- *"Okay now it's time for the prize draws!*
- ***Bring out Prizes***
- *For those who were not here last week, here is some information on this new feature. (Hand out client letter). If you have any questions, please ask me.*
- *I want to take this time to go over the rules again.*
- *Each time you come to group, you will draw ONE prize slip from this fish bowl.*
- *If you come to group twice in a row, you will draw TWO-prize slips*
- *If you come three times in a row, you will draw THREE-prize slips and so on.*
- *Up to a maximum of five draw slips.*
- *If you miss group without an approved absence, and the next week you attend group your draw slips will reset to ONE draw.*
- *You must let me know you will not be attending group before it starts and you must have a valid reason like illness or appointment.*
- *When you draw a prize slip, you have a chance of winning a good job slip, small prize, large prize or a jumbo prize!*
  - *Point to prizes in their respected areas when saying this.*
- *For those who attended last week, you will get to draw ONE slip this evening!*

- **Procedure**
  - Going off last week's sign in sheet, read out each name.
  - Get them to come to the front and make it a celebration!
  - If they are wearing anything long sleeved, have them roll up their sleeves.
    - Watch them carefully as they draw (watch for potential cheating).
  - **If they win a prize**, document it using the Prize Release Form.

- **After they draw**, provide them with the Prize Reminder Slip
- Also, hand out reminders to those who did not attend the previous week.

  - **Sample of way to say:**

- *"First up is Susan! Let's give a round of applause for Susan!* ***Clap***
- *Okay (Susan), because you attended group last week you get to draw ONE slip.*
- *I will get you to roll up your sleeves (if applicable).*
  - ***Mix up slips.***
- *Good luck!*
- ***If they win a prize:***
  - *Congratulations! You can choose any prize from the (small, large, jumbo) prize desk/cupboard. And don't forget that if you attend group next week, you will get TWO prize slips! Doubling your chances of winning*
- ***If they <u>don't</u> win a prize:***
  - *Oh no! I'm sorry. The good news is if you attend group next week, you will get TWO prize slips! Doubling your chances of winning!*
- *Here is a reminder for next week's group."*
- *To everyone: Thank you for attending group this evening!*
- *If you did not sign in at the beginning of group, please do so before leaving. Have a good evening and we look forward to seeing you next Thursday at*

AFTER SECOND GROUP

- Take attendance sheet and record attendance using the Research Attendance Sheet
- **If prizes were won**, remember to document it using the Prize Release Form
- Take prizes and put them away.

Appendix E

THIRD GROUP

- **Beginning**
  - Welcome everyone to group.
  - Have them sign the attendance sheet
  - Remind them of CM and that you will be continuing.
    - **Sample of way to say:**

> - *"Hello everyone and welcome. Before we begin, I want to make sure everyone had a chance to sign the attendance sheet. If you have not done so, please do so now.*
> - *Those who attended last week will once again have a chance to win prizes!*
> - *Those that attended the last two groups will receive TWO slip draws!*
> - *The prize draw will happen again at the end of group.*
> - *With that being said let's get started!"*

  - Proceed with group as usual.

- **End:**
  - Remind clients of CM (specifically the rules).
    - **Sample of way to say:**

> - *"Okay now it's time for the prize draws!* ***Bring out Prizes***
> - *For those who were not here last week, here is some information on this new feature. (Hand out client letter). If you have questions, please ask me.*
> - *To go over the rules again, those who came to group twice in a row will get two slips. Those who came to group last week only, will get ONE slip.*
> - *Also, just a reminder that if you miss group without an approved absence, the next week you attend will be reset to ONE draw.*
> - *When you draw a prize slip, you have a chance of winning a good job slip, small prize, large prize or a jumbo prize!*
>   - *Point to prizes in their respected areas when saying this.*
> - *Okay let's begin!"*

Appendix E

- **Procedure**
  - Going off the last week's sign in sheet, read out each name.
    - **Reference the last TWO weeks to identify those that have attended twice!**
  - Get them to come to the front and make it a celebration!
  - Watch them carefully as they draw (watch for potential cheating).
  - **If they win a prize**, document it using the Prize Release Form.
  - **After they draw**, provide them with the Prize Reminder Slip.
  - Hand out reminders to those who did not attend last week.
    - **Sample of way to say:**

- *"First up is Susan! Let's give a round of applause for Susan!* ***Clap***
- *Okay (Susan), because you attended group* ***(last week/ twice in a row)*** *you get to draw* ***(ONE/TWO)*** *slip.*
- *I will get you to roll up your sleeves (if applicable).*
  - ***Mix up slips.***
- *Good luck!*
- ***If they win a prize:***
  - *Congratulations! You can choose any prize from the (small, large, jumbo) prize desk/cupboard. And don't forget that if you attend group next week, you will get (****TWO/THREE)*** *prize slips! Increasing your chances of winning*
- ***If they don't win a prize:***
  - *Oh no! I'm sorry. The good news is if you attend group next week, you will get (****TWO/ THREE)*** *prize slips! Increasing your chances of winning!*
- *Here is a reminder for next week's group.* ***Give Prize Reminder Slip***
- *To everyone: Thank you for attending group this evening!*
- *If you did not sign in at the beginning of group, please do so before leaving. Have a good evening and we look forward to seeing you next Thursday at _____"*

Appendix E

After Third Group

- Take attendance sheet and record attendance using the Research Attendance Sheet
- **If prizes were won,** remember to document it using the Prize Release Form
- Take prizes and put them away.

Fourth Group and Beyond

Groups will continue in the same fashion. The only changes will be to number of draws as clients come to more in a row (See the Protocol Table below)

Continue to use the Sample scripts, interchanging the number of weeks and draws for each client.

- **Beginning**
  - Welcome everyone to group.
  - Have them sign the attendance sheet
  - Remind them of CM and that you will be continuing at the end of group.
  - Proceed with group as usual.
- **End:**
  - Remind clients of CM (specifically the rules).
  - Hand out information sheet to those who have not yet attended and do not know the protocol.
- **Procedure**
  - Going off the last week's sign in sheet, read out each name.
  - *Reference the last TWO/THREE/FOUR… etc. weeks to identify those that have attended multiple in a row!*

Protocol Table

Number of Meetings Attended	Prize Slip #
First time attending	ONE
Twice in a row	TWO
Three times in a row	THREE
Four times in a row	FOUR
Five times in a row	FIVE
Five +	FIVE

- Get them to come to the front and make it a celebration!
- Watch them carefully as they draw (watch for potential cheating).
- *If they win a prize*, document it using the Prize Release Form.
- *After they draw*, provide them with the Prize Reminder Slip.

Also, hand out reminders to those

PILOT TWO AMENDMENT

- Protocol
  - Everything remains the same except for the inclusion of the primer.
  - Following the first draw participants are to be given a $5 gift card regardless of the draw outcome.
    - **Sample of way to say:**

- *"Okay now it's time for the prize draws! Bring out Prizes*
- *For those who were not here last week, here is some information on this new feature. (Hand out client letter). If you have any questions, please ask me.*
- *I want to take this time to go over the rules again.*
- *Each time you come to group, you will draw ONE prize slip from this fish bowl.*
- *If you come to group twice in a row, you will draw TWO-prize slips If you come three times in a row, you will draw THREE-prize slips and so on. Up to a maximum of five draw slips. If you miss group without an approved absence, and the next week you attend group your draw slips will reset to ONE draw. You must let me know you will not be attending group before it starts and you must have a valid reason like illness or appointment.*
- *When you draw a prize slip, you have a chance of winning a good job slip, small prize, large prize or a jumbo prize!*
- *For those who attended last week, you will get to draw ONE slip this evening!*
- ***In addition to your draw, for your first attended group you will a $5 gift card for simply attending group! After your draw you can make your selection from the gift cards available.***

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PILOT TWO AMENDMENT AFTER GROUP

- **If it their first attendance and they receive the $5 gift card primer, document it using the Research Attendance Sheet (in the comments section) and Prize Release Form (noting the prize category as the Primer).**

Appendix E

Group Attendance Sheet

ID Number	Name (Print)	Signature	Date

Appendix E

Research CM Group Attendance Sheet

Client ID#:_____

Week	Date	Attended (Y/N)	Excused Absence (Y/N)	Number of Draws	Prize(s) drawn	Comments
1						
2						
3						
4						
5						
6						

Appendix E

Client ID# :_____

Week	Date	Attended (Y/N)	Excused Absence (Y/N)	Number of Draws	Prize(s) drawn	Comments
7						
8						
9						
10						
11						
12						

Appendix E

PILOT ONE: Client letter

Dear Participant,

Starting on _____, we will be offering you a chance to win gifts for coming to your Tee Time group on Mondays. Researchers have found that offering prizes can be helpful for engaging clients in group and increasing attendance rates. We are trying this program at AHS in the hopes that more people will stick with the group. This study is being conducted in partnership with the University of Calgary.

The prizes you could win range from affirmations to small, large and jumbo prizes. Small prizes are things such as toiletry items, candy and chocolate bars. Medium prizes are worth about $5 and include coffee gift cards, gloves, mug etc. Large prizes are worth about $20 and include gift cards, phone charger, and speakers. A jumbo prize may be a backpack, gift card, etc.

Each time you come to group, you will have a chance of winning one of these prizes. Each week, you will get to draw a slip from a box and you will win a prize. The more times in a row you come to group, the greater your chances of winning prizes!

The first week you come to group, you will get to draw ONE slip. If you come to group two weeks in a row, you get to draw TWO slips. If you attend group three weeks in a row, you get to draw THREE slips, and so on. To be mindful of our time in-group, the maximum number of draws you can achieve are FIVE for attending five consecutive weeks.

If you miss group, your chances of winning prizes will be reduced. Failure to attend a group session without notifying the counsellor prior to the start of group with an approved absence will result in no draws for you that week. The next week that you attend, your number of draws will reset to ONE.

If you attend groups regularly, you may win multiple prizes some weeks. The maximum number of draws you can reach is FIVE, and you would win FIVE prizes that day! We hope you enjoy this program and look forward to your participation in group!

Appendix E

PILOT TWO: Client letter

Dear Participant,

Starting on _____, we will be offering you a chance to win gifts for coming to your Tee Time group on Mondays. Researchers have found that offering prizes can be helpful for engaging clients in group and increasing attendance rates. We are trying this program at AHS in the hopes that more people will stick with the group. This study is being conducted in partnership with the University of Calgary.

The prizes you could win range from affirmations to small, large and jumbo prizes. Small prizes are things such as toiletry items, candy and chocolate bars. Medium prizes are worth about $5 and include coffee gift cards, gloves, mug etc. Large prizes are worth about $20 and include gift cards, phone charger, and speakers. A jumbo prize may be a backpack, gift card, etc.

Each time you come to group, you will have a chance of winning one of these prizes. Each week, you will get to draw a slip from a box and you will win a prize. The more times in a row you come to group, the greater your chances of winning prizes!

The first week you come to group, you will get to draw ONE slip. In addition to your first draw you will also receive a $5 gift card for simply attending. Following you first attendance, you will receive draw slips only but the number will accumulate! For example, if you come to group two weeks in a row, you get to draw TWO slips. If you attend group three weeks in a row, you get to draw THREE slips, and so on. To be mindful of our time in-group, the maximum number of draws you can achieve are FIVE for attending five consecutive weeks.

If you miss group, your chances of winning prizes will be reduced. Failure to attend a group session without notifying the counsellor prior to the start of group with an approved absence will result in no draws for you that week. The next week that you attend, your number of draws will reset to ONE.

If you attend groups regularly, you may win multiple prizes some weeks. The maximum number of draws you can reach is FIVE, and you would win FIVE prizes that day! We hope you enjoy this program and look forward to your participation in group!

Appendix E

Inventory checklist

We are starting a program soon where you will be able to earn incentives from attending group! We want to know from you, what types of gifts or incentives you would want. Please put a checkmark next to your favourite items in the list below:

Small incentives – Please check your top five favourite items from the list below. You do not need to rank them, just a check mark will do

_____ soaps/ body wash
_____ shampoo/ conditioner
_____ tooth paste
_____ tooth brush
_____ dental floss
_____ hair brush/comb
_____ bubble bath
_____ bath bomb
_____ shaving gel
_____ hand/ body lotion
_____ hair accessories
_____ pads of paper
_____ notebooks
_____ small calendars
_____ small make-up items
_____ lip balm
_____ potato chips
_____ chocolate bars, preferred types _____
_____ juice
_____ candies, preferred types _____
_____ chewing gum
_____ socks
_____ key rings
_____ coffee mugs
_____ kitchen items (spatulas, dish soap, sponges, etc.)
_____ tissues
_____ liquid hand soap

Medium incentives – Please check your top three favourite items from the list below.

_____ $5 gift cards to local movie theatre – Canyon Meadows
_____ $5 gift card to fast food. (List favourites: _____)
_____ $5 gift card for iTunes/ Amazon
_____ $5 coffee card
_____ Transit pass
_____ USB Memory stick

_____ File organizer
_____ Make-up
_____ Travel mug
_____ Jewellery
_____ Mini Tool kit
_____ Journal
_____ Cards / stationery sets
_____ Board games
_____ Popular kid's toys (List favourites: _____)
_____ Pencil crayons/markers
_____ Adult colouring books
_____ Bed/Pillows
_____ Loom/Yarn

Large incentives – Please check your top <u>three</u> favourite items from the list below.

_____ $20 gift card to local movie theatre
_____ $20 gift card to restaurant. (List favourites :_____)
_____ $20 gift card to Indigo/Chapters
_____ $20 gift card to Shoppers Drug Mart
_____ $20 gift card to Superstore/Walmart
_____ $20 gift card to children's store (List favourites :_____)
_____ $20 pay as you go phone card
_____ $20 gas card
_____ Basketball
_____ Soccer ball
_____ Kitchen pot/ pans
_____ Silverware set
_____ Portable fan
_____ Coffee maker
_____ Hair dryer
_____ Curling iron
_____ Alarm clock
_____ Rice cooker
_____ Bluetooth speaker
_____ Bed sheets
_____ Towel set
_____ Electric kettle
_____ Travel water bottle
_____ Yoga mat
_____ Lamp
_____ Blanket/Throw
_____ Toaster
_____ Headphones/ earbuds

_____ Watch

Jumbo incentives – Please check your top <u>two</u> favourite items from the list below.

_____ Microwave
_____ Toaster oven
_____ Bluetooth speaker
_____ $100 gift card _____
_____ Sleeping bag
_____ Backpack
_____ MP3 player/ iPod shuffle

Appendix E

Prize release form

Small Prize Inventory Log

Description	Cost	Date of Purchase	Date Selected	Client Initials	Audits Date	Date	Date	Date	Problem?

Instructions:

5. Enter each prize on its own line. You will need to use multiple sheets.
6. All items listed on PIL should be in cabinet.
7. Prize Release Forms should be reconciled with each item selected by client.
8. Audit Dates: To be done semi-monthly, to ensure inventory in cabinet matches Inventory Log. Once an item has been chosen by a client, indicate NA in the remaining Audit Date boxes.

Appendix E

Prize release form

Medium Prize Inventory Log

					Audits				
Description	Cost	Date of Purchase	Date Selected	Client Initials	Date	Date	Date	Date	Problem?

Instructions:

5. Enter each prize on its own line. You will need to use multiple sheets.
6. All items listed on PIL should be in cabinet.
7. Prize Release Forms should be reconciled with each item selected by client.
8. Audit Dates: To be done semi-monthly, to ensure inventory in cabinet matches Inventory Log. Once an item has been chosen by a client, indicate NA in the remaining Audit Date boxes.

Appendix E

Prize release form

Large Prize Inventory Log

					Audits				
Description	Cost	Date of Purchase	Date Selected	Client Initials	Date	Date	Date	Date	Problem?

Instructions:

5. Enter each prize on its own line. You will need to use multiple sheets.
6. All items listed on PIL should be in cabinet.
7. Prize Release Forms should be reconciled with each item selected by client.
8. Audit Dates: To be done semi-monthly, to ensure inventory in cabinet matches Inventory Log. Once an item has been chosen by a client, indicate NA in the remaining Audit Date boxes.

Appendix E

Prize release form

Jumbo Prize Inventory Log

					Audits				
Description	Cost	Date of Purchase	Date Selected	Client Initials	Date	Date	Date	Date	Problem?

Instructions:

5. Enter each prize on its own line. You will need to use multiple sheets.
6. All items listed on PIL should be in cabinet.
7. Prize Release Forms should be reconciled with each item selected by client.
8. Audit Dates: To be done semi-monthly, to ensure inventory in cabinet matches Inventory Log. Once an item has been chosen by a client, indicate NA in the remaining Audit Date boxes

Appendix E

Prize Reminder for First Week Attended

Appendix E

Prize Reminder for Second Week Attended and Beyond

Appendix F

Phase II: Quantitative Site Survey (Client Version)

Agency: _____

Consent Form Signed: Yes No

Client ID #: _____

_____Cut Here_____

Client Name: _____

Appendix F

1. What is your age? _____

2. What is your Gender? (Check one)

_____ Male

_____ Female

_____ Neither of the above apply to me. I identify as: _____

3. What is your highest education completed? (Check one)

_____ No degree, certificate or diploma (Please specify highest grade level completed: _____-)

_____ High school diploma or equivalent

_____ Trades or apprenticeship certificate or diploma

_____ College or other non-university certificate or diploma

_____ University degree, certificate, or diploma below bachelor level

_____ Bachelor's degree

_____ Master's degree or diploma/certificate above bachelor level

_____ Doctorate or other professional degree (Please specify: _____)

4. What is your employment status? (Check one)

_____ Full time

_____ Part time

_____ Self-employed

_____ Unemployed

_____ Retired

_____ Other (Please specify: _____)

5. What is your gross household income? (Check one)

_____ Under $10,000

_____ $10,000 to $19,999

_____ $20,000 to $29,999

_____ $30,000 to $39,999

_____ $40,000 to $49,999

_____ $50,000 to $59,999

_____ $60,000 to $69,999

_____ $70,000 to $79,999

_____ $80,000 to $89,999

_____ $90,000 to $99,999

_____$100,000 +

6. What is your marital status? (Check one)

_____ Single (never legally married)

_____ Legally married (and not separated)

_____ Common-law

_____ Separated (but still legally married)

_____ Divorced

_____ Widowed

Appendix F

7. What is your ethnicity? (Check one)

_____ Aboriginal (Inuit, Métis, North American Indian)

_____ Arab

_____ Black (e.g., African, Haitian, Jamaican, Somali, etc.)

_____ Caucasian

_____ Chinese

_____ Filipino/ Pacific Islander

_____ Japanese

_____ Korean

_____ Latin American

_____ South Asian (e.g., East Indian, Pakistani, Sri Lankan)

_____ South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)

_____ West Asian (e.g., Afghan, Iranian)

_____ Other (Please specify: _____)

Appendix F

8. What is your presenting addiction issue? (Check one)

(Check all that apply and rank them, with 1 being the most problematic)

Presenting issue	Check all that apply	Ranking 1 = most problematic
Alcohol		
Cannabis (e.g., marijuana, hash)		
Hallucinogens (e.g., LSD, acid, mushrooms, PCP, Special K)		
Inhalants (e.g., glue, solvents)		
Psychoactive prescription medication ➢ **anti-anxiety agents/anxiolytics** (e.g., Ativan, Klonopin, Xanax)		
➢ **antidepressants** (e.g., Nardil, Paxil. Prozac, Zoloft)		
➢ **anti-psychotics** (e.g., Abilify, Risperdal, Seroquel)		
➢ **mood stabilizers** (e.g., Depakote, Lamictal, Lithium)		
➢ **prescription stimulants** (e.g., Adderall, Concerta, Ritalin)		
Presenting issue	**Check all that apply**	**Ranking 1 = most problematic**
Prescription Opioids (e.g., hydrocodone, oxycodone, oxymorphone, morphine, codeine, fentanyl)		
Illicit Opioids (e.g., heroin, opium, fentanyl)		
Cocaine / Crack Cocaine		
Methamphetamine		
MDMA (Methylenedioxymethamphetamine, ecstasy)		
Tobacco/nicotine		
Behavioural addictions (e.g., gambling, sex, video games)		
Other (please specify): _____		

Appendix F

Before you start the survey, I will remind you of what Contingency Management is.

***Contingency Management** is when individuals are provided with **incentives** (such as vouchers, goods, or privileges) for completing certain treatment-related behaviours.*

*So, for you, who attended **[INSERT PROGRAM]**, you were given opportunities to win **prizes** for [INSERT PROGRAM SPECIFIC BEHAVIOUR].*

Appendix F

For the following questions, please answer using these responses:

N/A – Not Applicable, **1 –** Not at all, **2 –** Slightly, **3 –** Unsure/ Neutral, **4 –** Very, **5 –** Extremely

		N/A	1	2	3	4	5
1.	How helpful did you find Contingency Management?						
2.	How much did you like the incentives offered?						
3.	Having completed Contingency Management, how confident do you feel in (***Insert Program Specific Goal:*** continuing to come to group/ achieving your goals/ maintaining or achieving abstinence)?						

Please answer the following questions with the extent that you agree with each statement:

N/A – Not Applicable, **1 –** Strongly Disagree, **2 –** Disagree,
3 – Neutral, **4 –** Agree, **5 –** Strongly Agree

		N/A	1	2	3	4	5
1.	I (***Insert Program Specific Goal:*** came to group more/ worked harder to achieve my goals/ worked to maintain or achieve abstinence) because of Contingency Management						
2.	I did not find Contingency Management helpful because I did not win enough (***Insert Program Specific Inventive:*** prizes/ incentives/ vouchers).						
3.	Contingency Management works						
4.	Contingency Management took away from my treatment experience						
5.	My counsellor was not excited about Contingency Management						
6.	The Contingency Management protocol was condescending.						
7.	If Contingency Management is withdrawn, I will not (***Insert Program Specific Goal:*** continue to come to group/ work to achieve my goals/ maintain or achieve abstinence).						
8.	I sold/traded the items I earned for alcohol and/or drugs						
9.	Administering (***Insert Program Specific Inventive:*** prizes/ incentives/ vouchers) took up a lot of time in my therapy/ group session						
10.	People outside of (***Insert Program Specific:*** group/ treatment) did not understand why I was being rewarded.						
11.	I was encouraged to (***Insert Program Specific Goal:*** continue to come to group/ work to achieve my goals/ maintain or achieve abstinence) because of Contingency Management.						
12.	I was already abstinent at intake, so I didn't need or benefit from Contingency Management						

Appendix F

Please** answer **the following questions with the extent that you agree with each statement:

N/A – Not Applicable, **1 –** Strongly Disagree, **2 –** Disagree,
3 – Neutral, **4 –** Agree, **5 –** Strongly Agree

		N/A	1	2	3	4	5
13.	Contingency Management was useful in helping me achieve and/or maintain abstinence						
14.	I found Contingency Management helpful because I won a lot of (***Insert Program Specific Inventive:*** prizes/ incentives/ vouchers).						
15.	I found Contingency Management distasteful because it was basically paying me to do what I should have been doing already						
16.	Contingency Management was more expensive than it was helpful (e.g., cost of prizes, vouchers).						
17.	Contingency Management was good for the client-counsellor relationship						
18.	Contingency Management was good for me because it got me excited about my treatment and progress						
19.	Contingency Management is effective						
20.	Providing (***Insert Program Specific Incentive Type:*** prizes/vouchers) undermined my internal motivation to stay sober						
21.	I thought or was tempted to sell/trade items I earned for alcohol and/or drugs						
22.	I found Contingency Management patronizing						
23.	Contingency Management motivated me to (***Insert Program Specific Goal:*** continue to come to group/ work to achieve my goals/ maintain or achieve abstinence).						
24.	Any source of motivation, including extrinsic motivation (e.g., prizes, money, etc.), is good if it helps me to stay involved and responsive to treatment						
25.	I will continue (***Insert Program Specific Goal:*** to come to group/ working on my goals/ to work to maintain or achieve abstinence) even when contingencies are withdrawn						
26.	Contingency Management caused arguments between the group (e.g., when some got prizes and others did not)						
27.	I do not believe I should have been given rewards for (***Insert Program Specific Goal:*** coming to group/ working on my goals/ maintaining or achieving abstinence) because I was not meeting my other treatment goals.						
28.	Contingency Management didn't address the underlying cause of my addiction						
29.	People outside of (***Insert Program Specific:*** group/ treatment) thought the agency I attended looked bad for giving out rewards to us.						
30.	Others in my group sold/traded items they earned for alcohol and/or drugs						
31.	I am in favour of Contingency Management interventions being added to existing substance abuse treatment services						
32.	Contingency Management focused on the good in my behaviour, and not just what went wrong						

Appendix F

Please** answer **the following questions with the extent that you agree with each statement:

N/A – Not Applicable, **1 –** Strongly Disagree, **2 –** Disagree,
3 – Neutral, **4 –** Agree, **5 –** Strongly Agree

		N/A	1	2	3	4	5
33.	Contingency Management helped to get me sober so that I could work on other aspects of my treatment						
34.	The Contingency Management protocol was time consuming.						
35.	Contingency Management was helpful because it kept me engaged in treatment long enough for me to really learn valuable skills						
36.	Contingency Management is worth the counsellor/agency's time and effort						
37.	I would like to see Contingency Management at other services I do or will attend (e.g., continuing care groups, relapse prevention groups, one on one counselling).						

Appendix F

1. What was your favourite or the most useful part of Contingency Management? Why?

2. What was the worst or least useful part of Contingency Management? Why?

Appendix F

3. Do you have any other comments or suggestions about how we can make Contingency Management better?