

A person stands on a rocky peak, arms raised in triumph, silhouetted against a vibrant sunset. The background shows a vast, flat landscape with distant mountains under a warm, orange sky. The image is partially covered by a green diagonal overlay on the left side, which contains the title text. Two thin, parallel lines (one orange, one light blue) run diagonally across the image, separating the green overlay from the rest of the scene.

Best Practices: Contingency Management

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Contingency management (CM) is a form of behavioral therapy that uses rewards to reinforce positive behaviors. In this booklet, you'll learn:

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Improving Wellness in Alabama

The Basics

What is Contingency Management?

Contingency management (CM) is a type of behavioral therapy that is often referred to as “motivational incentives.” It is rooted in operant conditioning, a concept from behavioral psychology.¹ CM uses the core processes of operant conditioning, where the participant is given reinforcement when they perform desirable behaviors and punished or ignored when those behaviors are abandoned.²

CM is a helpful tool as part of treatment for substance use disorders to encourage pro-recovery behaviors like abstinence from drug of choice, session attendance, and progress toward personal goals. It can also be applied to treatment of other behavioral issues.¹



Research has shown that CM treatment is effective even after participants completed the program. A literature review of CM research found evidence that incentive-based treatment is successful at changing behaviors across diverse populations, substances, and settings.

– Davis, Kurti, Skelly, Redner, White, & Higgins, 2016³

How Does CM Work?

At the heart of contingency management is operant conditioning, which concludes that people learn and adapt to behaviors based on reinforcements and punishments. Many people experience this type of learning as children by touching a hot stove; this same concept works when applied to people with substance use disorders. CM uses the key concepts from operant conditioning to modify clients' behavior:¹

- Behaviors that are rewarded are more likely to continue with increased frequency, intensity, and duration
- Behaviors that are punished are reduced in frequency, intensity, and duration until they are eliminated
- Behaviors that are ignored, given no reinforcement, or no punishment are reduced until they are eventually eliminated.



Alcohol and drug use are behaviors influenced by neurological and environmental factors



Psychology tells us that people can learn new behaviors through repetition



Harmful substance use can be reduced with consistent consequences or alternatives that reinforce positive, healthy behaviors

Benefits

Long-Term Benefits

When a CM program is implemented correctly, the treatment can lead to several long-term benefits:⁴

- Reducing or eliminating substance use
- Improving medication compliance
- Promoting participation in supplementary programs like employment opportunities
- Encouraging continued participation in other treatment programs

CM can be used by itself, but its effectiveness increases when used in combination with other treatment styles such as:^{1,5}

- Cognitive-Behavioral Therapy
- Medication Management
- Medication Maintenance Programs
- Motivational Interviewing




As client needs vary, contingency management can be tailored to fit those needs through slight modification. CM can be effective at modifying many types of behavior, including impulse control, substance use disorder, and defiance.
– American Addiction Centers, 2021¹

Proper Use

Using Contingency Management

Incentive-based therapy can change the form and frequencies of behavior through the conditioning and repetition of reinforcements and punishments. In CM programs, staff must monitor behaviors frequently and provide reinforcers consistently.⁴

During the program, it is essential for staff to identify the neurological and environmental factors that contribute to a client's substance use disorder. Recognizing and addressing these factors help the participant maintain desirable behaviors.^{2,4}

 WHAT'S THE BACKGROUND?	PROVEN EFFECTIVE IN TREATING:¹	CONTRIBUTING FACTORS TO SUD:⁶
	Alcohol	Mental health disorders
	Stimulants	Family history of SUD
	Opioids	Past traumatic experiences
	Marijuana	Peer pressure
	Nicotine	Duration of use*

**90% of people who struggle with SUD began using illicit substances as teenagers*

Seven Principles to Know

When using CM, there are seven key principles to know about the patient. Each patient is different, so ideal CM treatment plans will vary.¹

1 WHAT IS THE TARGET BEHAVIOR?
This could be a negative behavior being reduced (buying or using substances) or a positive behavior to be increased (compliance with sessions or establishing appropriate relationships).

2 WHO COULD BENEFIT FROM CM?
Some clients' intrinsic motivations are enough to progress through treatment. CM is most useful for clients just beginning their recovery journey or for those with poor success rates in the past.

3 WHAT IS THE BEST REINFORCER?
To accomplish its goal, the incentive must be of value to the participant, but it also must be realistic. For example, money has been a successful incentive, but it can sometimes trigger cravings.

4 WHAT IS THE REWARD'S MAGNITUDE?
Different people need different levels of reinforcement to remain engaged. Staff and participants must find a balance between both practical and rewarding for the client. Some aspects that could influence this decision include: past use, past success with recovery, response to rewards, and social supports.

5 HOW FREQUENTLY IS THE REWARD DISTRIBUTED?

Reinforcement can occur each time a desired behavior occurs, at a specified rate, or at a variable rate. The ideal rate will differ with each participant, and staff should work with them to find the right balance.

6 WHEN SHOULD THE REWARD BE DISTRIBUTED?

The reward should be given immediately after the desired behavior occurs to best build an association between behavior and reward.

7 HOW LONG SHOULD THE TREATMENT CONTINUE?

Treatment can end when the desire for sobriety continues without the use of rewards. When the program comes to a close, it is important to include relapse prevention strategies.

Reinforcement Approaches

VOUCHER-BASED REINFORCEMENT

Voucher-Based Reinforcement (VBR) rewards participants for every drug-free urine sample with redeemable vouchers. The vouchers can be used for various items and activities that promote a lifestyle free from use of illicit substances. Think: food or movie passes.⁷

With consecutive drug-free urine samples, the voucher's value increases. If the participant has a positive urine sample, the voucher value will reset to its base value.⁷

VBR is primarily used for people who struggle with misuse of opioids and stimulants. It is most commonly used to help the participant refrain from heroin and cocaine.⁸

PRIZE INCENTIVES

Prize Incentives are similar to VBR, but it uses chances to win prizes instead of vouchers. Throughout the program, participants draw from a bowl to win a prize with varied monetary amounts.⁷

Like VBR, a drug-free urine sample or breath test is the base requirement. One negative test earns the participant one chance to draw from the bowl. The participant could also earn additional chances to draw with consistent and consecutive pro-recovery behaviors like:⁷

- Negative drug tests
- Counseling sessions attended
- Goal-related activities completed

Upon a positive urine sample or unexcused absences from program activities, the participant's chances to draw reset to one.⁷



Some professionals have criticized Prize Incentives CM as possibly increasing the risk of gambling, but studies have shown it does not promote gambling behavior.

– Petry, Kolodner, Li, Peirce, Roll, Stitzer, Bigelow, & Liebson, 2006⁹

COMMUNITY REINFORCEMENT APPROACH (CRA) PLUS VOUCHERS

This approach uses intensive 24-week outpatient therapy and a range of recreational, familial, social, vocational, and material reinforcers. CRA Plus Vouchers is particularly useful for people who struggle with cocaine and alcohol use.¹⁰

Counseling sessions up to twice a week are used to improve family relations, learn skills to minimize substance use, receive vocational counseling, and develop new social networks.¹⁰ Those who struggle with alcohol use disorder (AUD) receive disulfiram (antabuse) therapy.²

CRA Plus Vouchers also issue voucher rewards for cocaine-free urine samples up to three times a week.

This program aims to make a lifestyle free from using illicit substances more rewarding and ideal than substance use with two goals:¹⁰

1. Maintain abstinence long enough to learn new life skills to help sustain it
2. To reduce alcohol consumption in patients whose drinking is associated with cocaine use



Studies in both rural and urban areas have found that the CRA + Vouchers approach facilitates patients' engagement in treatment and successfully aids them in gaining substantial periods of cocaine abstinence.

– National Institute on Drug Abuse¹⁰

Expectations & Insights

Rewards vs. Punishments

Most CM programs choose to use positive reinforcements rather than negative punishments. While effective, negative reinforcements:¹

- Can damage relationships between participant and person giving the punishment
- Are associated with a lack of engagement and consistency
- Can lead to secrecy that can hamper recovery

Rewards are more effective and longer lasting than punishments. The most successful CM strategies involve rewarding achievements over punishments for a lack of achievement.

Punishment vs. Reinforcement ¹¹	POSITIVE <i>add stimulus</i>	NEGATIVE <i>remove stimulus</i>
REINFORCEMENT <i>to increase behavior</i>	Add something good to increase behavior	Add something bad to decrease behavior
PUNISHMENT <i>to decrease behavior</i>	Remove something good to decrease behavior	Remove something bad to increase behavior

Chart adapted from Daffin¹¹

It's More than Pure Willpower

Substance use disorder is often seen as an issue of morality or a lack of willpower. When someone struggles with addiction, something changes in their brain and the “high” they associate with the drug becomes the most important aspect of their life.^{12,13}

The road to recovery is not easy, and relapse is common. People new to treatment may struggle with strained relationships, poor financial situations and comorbid physical and mental health. These stressors often lead people to experience relapse or symptom exacerbation.^{12,13}

CM can be a rewarding experience that can help people with substance use disorder flourish. Physicians should not be discouraged if a patient relapses but should instead provide support and encouragement for the patient so they can continue to move forward with the program.



Approximately 40-60% of people relapse within one year of substance use disorder treatment. The longer someone stays sober, the less likely they are to relapse.

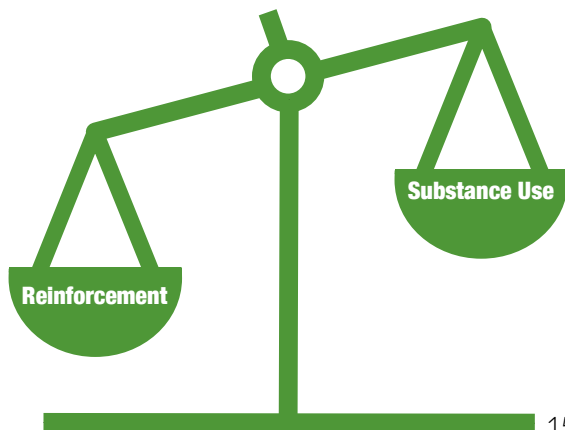
– McLellan, Lewis, O'Brien, & Kleber¹³

Weighing the Rewards

The goal is for the participant to reach a point where the reinforcement in the CM program is equal to or outweighs the rewards they associate with substance use.¹ If a participant maintains abstinence from the substance for which they are receiving treatment but has not reached this goal by the end of the program, staff and participant can consider extending the duration of treatment.

Duration of treatment will vary by patient needs. Typical CM programs last around 12 weeks and are very effective.⁵ However, research suggests longer durations (16 or 24 weeks) of CM programs lead to longer and more continued abstinence.¹⁰

Staying in a CM program for a longer period of time is not the magic key for success, but an extended treatment can help them maintain longer abstinence from the substance for which they are receiving treatment.⁸



Future of CM

Experimental technological innovations are showing a future of contingency management that could help more people.

For many people, particularly in rural areas, transportation can be a barrier to treatment. However, studies suggest that abstinence and duration of abstinence increase by providing participants with the means to self administer the test (a breathalyzer) and a phone to record them taking the test during a contingency management program.⁵ In fact, research suggests that using an app during CM can improve results by 2 to 3 times compared to those not using an app.¹⁴ This eliminates or at least decreases the frequency of the need for the participant to travel.

Other experimental technologies focus on monitoring medication adherence. When partnered with CM, electric monitors on pill bottles can encourage participants to take their necessary medication at higher rates.¹⁵

Key Takeaways

- 1 Staff must frequently monitor the behavior the client is trying to change.
- 2 Provide tangible, immediate positive reinforcement each time that the behavior occurs.
- 3 Withhold the reinforcement when the behavior does not occur.
- 4 Incentives vary by treatment type, program philosophy, logistics, staff availability, and program resources.
- 5 CM works in both residential and outpatient programs, but is especially useful in a group setting.
- 6 Experimental technologies in CM show promising results by using electronic adaptations for treatment.

Resources

Alabama Resources

Alabama Department of Mental Health (ADMH): <https://mh.alabama.gov/>

Recovery Organization for Support Specialists (R.O.S.S.):

24/7 Helpline 1-844-307-1760

<https://ross4u.org/>

VitAL: <https://vitalalabama.com/>

Further Reading

Glass, J. E., Nunes, E. V., Bradley, K. A. (2020, March 11). *Contingency Management: A Highly Effective Treatment For Substance Use Disorders And The Legal barriers That Stand In Its Way*. Health Affairs.

<https://www.healthaffairs.org/doi/10.1377/hblog20200305.965186/full/>

This article explores the limitations of CM due to legal barriers that prevent everyone from accessing this care.

Goodnough, A. (2020, October 27). *This Addiction Treatment Works. Why Is It So Underused?* The New York Times.

<https://www.nytimes.com/2020/10/27/health/meth-addiction-treatment.html>

This article gives testimony from doctors and patients and explores barriers to CM treatment.

Petry, N. M. (2012). *Contingency management for substance abuse treatment: A guide to implementing this evidence-based practice* (1st ed.) Routledge.

This book provides a foundation for understanding CM and details how to design and implement a program that can work for any clinician, whether they work for a well-funded program or not.

Petry, N. M., et al. (2005). Effect of prize-based incentives on outcomes in stimulant abusers in outpatient psychosocial treatment programs: A national drug abuse treatment clinical trials network study. *Archives of General Psychiatry*, 62(10), 1148-1560.
<https://doi.org/10.1001/archpsyc.62.10.1148>

This article evaluates the efficacy of an abstinence-based contingency management intervention as an addition to usual care in community treatment settings.

Weber, L. (2011). *Top 10 contingency management interventions for addiction*. Message posted to <https://alcohol.addictionblog.org/top-10-contingency-management-interventions-for-addiction/>

This blog gives several suggestions for contingency management prizes.

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- ⁶ Partnership Staff. (2021). *Risk factors for addiction*. DrugFree.org. <https://drugfree.org/article/risk-factors-problem-use-addiction/>
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