

## **Q.** What is contingency management?

**A.** Contingency management (CM) refers to the systematic reinforcement of desired behaviors (Higgins & Petry, 1999). Grounded on principles of positive reinforcement, CM encourages positive behavior change by rewarding patients, often with financial incentives or ‘vouchers’ exchangeable for goods, based on objective evidence of behavior change (such as abstinence from drinking confirmed by negative breath-alcohol tests, medication compliance, or treatment attendance; Higgins & Petry, 1999). In voucher-based reinforcement therapy, a common CM intervention, patients receive vouchers for providing negative biological samples, which can then be exchanged for goods and services (Lussier, Heil, Mongeon, Badger, & Higgins, 2006). Another CM technique, commonly referred to as the ‘fishbowl’ procedure, involves a lottery system where patients receive draws for providing negative biological samples (Petry & Martin, 2002).

## **Q.** What is the treatment model underlying CM for alcohol use disorder?

**A.** CM is based on the principle of operant conditioning, the use of consequences (rewards or punishments) to change the form and frequency of voluntary behavior (Higgins & Petry, 1999). In the case of alcohol use disorder (AUD), alcohol use is the behavior, and is positively reinforced by both its biochemical effects on the brain and environmental influences, such as stress and peer reinforcement. Animal research has demonstrated that increasing non-alcohol sources of reinforcement, such as food, can lead to decreases in alcohol use. Likewise, in humans, non-alcohol sources of reinforcement, for example entertainment, can reduce alcohol use. CM aims to achieve behavior change by applying consistent reinforcement (Higgins & Petry, 1999).

## **Q.** Is CM recommended as a treatment for AUD in the Military Health System (MHS)?

**A.** **No.** The 2015 VA/DoD Clinical Practice Guideline for the Management of Substance Use Disorders does not include CM as a treatment for AUD.

*The MHS relies on the VA/DoD clinical practice guidelines (CPGs) to inform best clinical practices. The CPGs are developed under the purview of clinical experts and are derived through a transparent and systematic approach that includes, but is not limited to, systematic reviews of the literature on a given topic and development of recommendations using a graded system that takes into account the overall quality of the evidence and the magnitude of the net benefit of the recommendation. A further description of this process and CPGs on specific topics can be found on the VA clinical practice guidelines website.*

## **Q.** Do other authoritative reviews recommend CM as a treatment for AUD?

**A.** **No.** Other authoritative reviews have not substantiated the use of CM for AUD.

Several other recognized organizations conduct systematic reviews and evidence syntheses on psychological health topics using similar grading systems as the VA/DoD CPGs. These include the Agency for Healthcare Research and Quality (AHRQ) and Cochrane.

- AHRQ: No comparative effectiveness reviews including CM as a treatment for AUD were identified.
- Cochrane: No systematic reviews including CM as a treatment for AUD were identified.

## **Q.** Is there any recent research on CM as a treatment for AUD?

**A.** Much of the recent research on CM is focused on treating addictions to substances other than alcohol, such as opioids and stimulants, largely due to the difficulties in confirming abstinence. Common methods for verifying abstinence include breath, blood, and urine tests, but alcohol leaves the

body quickly and most trials measure alcohol use only daily or weekly. Though some systematic reviews of CM for the treatment of substance use disorders do include AUD, few trials on AUD were identified, and the authors do not report specifically on the efficacy of CM as a treatment for AUD (e.g., Davis et al., 2016; Prendergast, Podus, Finney, Greenwell, & Roll, 2006).

Several small trials have examined the feasibility and efficacy of novel technology-based methods that enable frequent monitoring of alcohol use, such as use of remote breathalyzers and transdermal alcohol sensors (Alessi & Petry, 2013; Barnett et al., 2017; Dougherty et al., 2014; Koffarnus, Bickel, & Kablinger, 2018). Only one of these trials included only adults diagnosed with AUD (Koffarnus et al., 2018). In this trial, 40 treatment seeking adults diagnosed with AUD were randomized to either a contingent or noncontingent group. Breathalyzers allowed for remote, user-verified collection of breath alcohol samples three times per day. The contingent group received monetary incentives for each day of negative breathalyzer samples, while the noncontingent group received payments each day they provided samples, regardless of alcohol content. Abstinence rates, defined as percent days abstinent as measured by remote breathalyzer, were significantly higher for the contingent group than the noncontingent group. Adherence and acceptability were high.

### **Q.** What conclusions can be drawn about the use of CM as a treatment for AUD in the MHS?

**A.** The current state of evidence for CM is not mature enough to recommend it as an effective evidence-based treatment for AUD in the MHS. Research using technologies that enable continuous monitoring of alcohol use has the potential to change future recommendations of CM as a treatment for AUD, but the evidence is emerging, and currently consists mainly of small pilot studies. Multiple, methodologically rigorous randomized controlled trials are needed to form a body of evidence supporting the use of CM before it can be considered as an evidence-based treatment for AUD in the MHS.

### **References**

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