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Nationwide dissemination of contingency management: The Veterans Administration initiative

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Abstract

Background—Contingency management (CM) is an empirically validated intervention but one not often applied in practice settings in the US.

Objectives—The aim of this paper is to describe the Veterans Administration (VA) nationwide implementation of CM treatment.

Methods—In 2011, the VA called for integration of CM in its intensive outpatient substance abuse treatment clinics. As part of this initiative, the VA funded trainings and ongoing implementation support, and it provided direct funds for reinforcers and other intervention costs.

Results—Over 100 clinics received this funding in 2011, and CM has been implemented in over 70 substance abuse treatment clinics since August 2011.

Conclusions—This training and implementation experience has been highly successful and represents the largest scale training in evidence-based treatments for substance use disorders in the VA health care system to date.

Scientific Significance—This program may serve as a model for training in evidence-based treatments.

Keywords

contingency management; evidence-based treatments; dissemination

Contingency management (CM) is an efficacious treatment for substance use disorders,[1–3] but it has rarely been applied in community-based settings in the US.[4–7] In 2011, as part of the largest initiative for training in this evidence-based practice to that time, the Veteran's Administration (VA) provided funds to support training and initial implementation for CM nationwide. This paper outlines the rationale for this initiative, the process for providing training and ongoing supervision and support, details about the typical CM program administered, and initial clinician and patient reactions to CM.

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A. Rationale for the CM initiative

On February 23, 2011, the Deputy Under Secretary for Health for Operations and Management at the VA issued a memo regarding the need for greater implementation of CM.[8] Specifically, the memo noted that CM was recognized as an evidence-based intervention but only 1% of VA patients with substance use disorders had documented receipt of CM in 2010. The underutilization of CM was recognized as a limitation for effectively treating patients with substance use disorders, especially those for whom pharmacotherapies are not available (i.e., patients with stimulant use disorders). The memo called for the inclusion of CM in all intensive outpatient substance use treatment programs and their equivalents (i.e., programs that provided at least three hours per day of substance use treatment services at least three days per week).

The memo also noted two primary barriers to CM implementation: inadequate training and funding to establish the program. To address these issues, the VA supported four regional in-person trainings for clinical leaders and providers from VA intensive outpatient treatment programs (or equivalents). Further, each program that provided services to 50 or more patients during 2010 was allocated implementation support funds, amounts of which were dependent upon the number of patients seen in the program's intensive outpatient program (or equivalent) in 2010.

A total of 108 stations (treatment programs, which may include more than one clinic per station) across all 21 Veterans Integrated Service Networks (VISN) were eligible for and received CM funds. Fifty-six stations received $5000, with the remaining 52 allocated between $4,800 and $26,700. Funding was restricted for use of incentives, urine testing procedures, and CM support materials such as fishbowls and stationary for prize slips.

B. In-person training in CM

1. Format and goals

One hundred and eighty seven VA substance abuse treatment providers attended one of four 1 and ½ day trainings in April through July 2011 held in Connecticut, South Carolina, Colorado and Illinois. The trainees represented 113 VA stations: 106 of the 108 CM-funded stations plus 7 stations that did not qualify for CM funding but had recently implemented or planned to implement intensive outpatient substance abuse treatment. Objectives of the training were to: (1) ensure understanding of the basic principles underlying CM treatments, (2) provide evidence of the efficacy of CM, (3) assist participants in adapting a CM protocol consistent with behavioral principles in their setting, and (4) practice CM delivery.

To meet these goals, we designed didactics, demonstrations, and group exercises. Initially, we described how incentives shape behavior in everyday settings. Then, we reviewed outcome data from randomized trials.[9–13] Participants subsequently viewed a video of CM administration[14] and discussed questions that arose.

Next, we described behavioral principles important for CM interventions.[15] These included determining optimal frequencies of monitoring and reinforcing drug abstinence, and arranging appropriate magnitudes of reinforcement and escalating reinforcers for sustained

behavior change. We also outlined the importance of providing immediate reinforcement and elicited discussions around the pros and cons of different reinforcers, underscoring the need for highly desired prizes and individual differences with respect to types of preferred prizes. Examples of materials used in training are available.[15]

We also described benefits of CM in special populations such as the dually diagnosed, patients with post traumatic stress disorder, and those with higher incomes.[16–18] We further noted that CM has been applied in conjunction with virtually all forms of therapy, including cognitive-behavioral, motivational enhancement, 12-step, and pharmacotherapies.[10,19–21] This discussion highlighted that CM could be effective regardless of patient characteristics and therapeutic treatment orientation so long as it was designed and implemented with fidelity to behavioral principles.[15] We also detailed how to terminate CM, and discussed concerns about potential for relapse following treatment.[15]

2. Choosing a target population and program in which to implement CM

Although CM is widely efficacious across patient populations and clinical settings,[2–3] we underscored that CM should only be implemented in settings in which enhanced drug testing would not lead to punitive effects. For example, patients under stringent legal supervision for whom urinalysis results are shared with legal authorities are likely to be penalized if their CM samples test positive. Thus, these are not ideal candidates for CM, even though CM has been found efficacious in patients with legal problems.[22,23] Similarly, some residential settings have no tolerance policies on substance use. Veterans residing in such settings who test positive for drugs may lose housing, with CM participation resulting in penalties for such patients. Therefore, veterans were not offered CM if their housing program accesses (or requires notification of) urine test results, although in some contexts CM can be efficacious for homeless persons[24]

In terms of other programmatic issues, CM is not necessary for programs with very high success rates. If 90% of patients complete an intensive outpatient program and leave negative samples throughout it, such a program would not realize benefits with CM. In contrast, a program that graduates only half of those who initiate treatment and in which patients either self report use or regularly leave positive samples would be able to demonstrate changes in retention and/or drug use with successful CM implementation. Thus, these were the types of programs and populations for whom CM was recommended.

Given the vast evidence basis of CM in stimulant abusing populations[2–3,13] and the lack of pharmacotherapy for this group, the VA encouraged clinicians to include stimulant abusers in the CM protocol, whenever possible. By focusing on one drug abusing population, and targeting abstinence from just a single substance, implementation was more straightforward. Further, use of other non-targeted substances does not increase, and can actually decrease, during CM treatments that reinforce abstinence from a single substance.[10] Although many clinics desired to reinforce marijuana abstinence, CM programs reinforcing marijuana abstinence, while successful,[19–20] are more complicated to administer given the long lag-time between cessation of use and submission of negative samples.[15] We therefore recommended programs to use CM to reinforce stimulant abstinence whenever feasible in their clinics.

3. A typical prize CM protocol and adaptations for the VA

The training encouraged adoption of the "typical" prize CM intervention, with modifications to specific parameters as needed to accommodate standard care procedures. The typical prize CM intervention consists of testing for stimulants twice weekly at the beginning and end of each week (e.g., Mondays-Thursdays, Mondays-Fridays, or Tuesdays-Fridays) and providing increasing opportunities for winning $1, $20, and $100 prizes for each stimulant negative sample.[15] Draws increase by one for each consecutive negative specimen, up to a maximum of 8 draws. A refused or missed sample (i.e., an unexcused absence on a testing day) resets draws for the next negative sample down to one, with draws again escalating for sustained abstinence. The recommended duration is 12 weeks.

The training also reviewed how CM costs are estimated.[15] The intervention outlined above results in a maximum of 164 draws for participants who submit 24 negative samples. Typically, 500 slips are in the fishbowl; 250 state "Good job!" but are not associated with a prize, 209 state "Small," 40 state "Large" and one "Jumbo." Using these probabilities and magnitudes (of $1, $20 and $100 for the three respective prize sizes), each draw results in an average cost of about $2. Thus, for a 12-week intervention, each patient could earn 164 draws × $2/draw, or about $328 in prizes. However, on average, patients earn about half the maximal reinforcement because not all patients remain engaged for 12 weeks or maintain abstinence throughout treatment. Estimating an average cost of $150/patient would allow clinics receiving $5000 to treat about 30–35 patients with CM.

Two unique aspects of the VA system impacted the design of CM in many clinics. First, most CM programs using the fishbowl/prize system have an onsite prize cabinet containing >100 small prizes spanning an array of items, at least 20 different large prizes, and at least 3 jumbos.[15] Most VAs, however, have Canteens onsite. These Canteens, managed by the Veterans Canteen Service (VCS), are stores with a large variety of retail goods at reduced costs. Most programs therefore elected to provide gift cards to the VCS as prizes. Because VCS gift cards are redeemable for goods at VCS canteens and cafeterias throughout the VA, this practice reduced the need to shop for and store large numbers of items. To maximize the potential of Canteen gift cards being desired reinforcers, clinicians were urged to take patients to the Canteen during initiation of their CM program to identify specific desired items. Alternatively, clinicians could prepare a catalog or photo array of Canteen items, regularly reviewing it with participants. Secondly, most (but not all) clinics had laboratories onsite. Clinicians were encouraged to discuss the CM program with their laboratory director to ensure rapid, same day testing of samples for CM patients as immediate reinforcement delivery is central to the efficacy of CM programs.[2,15] Clinics without labs, or those that could not perform rapid testing, used onsite point-of-care urine toxicology tests.

After reviewing the standard CM program, participants discussed optimal intervention durations and reinforcement parameters in their unique settings. The goal was not to alter standard care at the clinics, but to integrate CM into standard care. Modifications to the standard CM protocol, given unique circumstances, were described. For example, clinics that provide services on Mondays, Wednesdays and Fridays may choose to test and reinforce abstinence thrice weekly, rather than twice weekly. Clinics that offered intensive services for only 4 weeks would consider aftercare treatment expectations for patients that

would be consistent with twice weekly urine testing. Clinics that provided services for only 8 weeks may truncate the intervention to that duration, while those with a 16-week program may extend it. Larger clinics with more than one program meeting basic parameter suggestions considered the programs in which patients would be most likely to benefit clinically. For example, some clinics suggested implementation at the end of inpatient hospitalizations to assist with transition to intensive outpatient treatment, and those with large populations of residential patients considered adding CM during the last week of residential treatment, as patients moved to outpatient care.

A representative from each clinic made a brief presentation describing the clinical program and population with whom they considered applying CM during the second half of the training session. They also outlined any potential deviations from the standard protocol needed to align with their standard care. Trainers and other participants critiqued the rationales for potential changes, considering the importance of behavioral parameters, and suggested modifications that aligned with behavioral principles.

4. Adherent and competent CM administration

The remainder of the in-person training was spent describing methods to ensure adherent and competent delivery of CM.[15] Forms for tracking CM sessions, patient progress (urine toxicology results), and draws were provided.[15] Methods for monitoring prize delivery were outlined, and explicit instructions on setting up a fishbowl were made available. The CM Competence Scale was reviewed,[25] along with a manual outlining appropriate and inappropriate CM delivery.[26]

Finally, participants practiced delivering CM via role plays. The role plays related to common situations during CM, including introducing CM to a new patient, providing increasing reinforcers for successive negative samples, and managing excused and unexcused absences and positive samples. Some more challenging scenarios were also represented, including handling samples positive for non-targeted substances and self-reports of use. As participants practiced the role plays, observers rated delivery using the CM Competence Scale to identify appropriate and inappropriate aspects of CM delivery.

At the end of the in-person training, participants were urged to discuss CM with their colleagues at their home clinics and determine the best patient population and existing clinical program in which to implement CM. Over the course of the next two to four months, clinicians participated in at least two conference calls during which implementation issues were further discussed and plans finalized, as described below.

C. Pre-implementation planning calls

Planning calls occurred throughout the 12 months following the first in-person training. One hundred and five (97%) of the 108 funded sites participated in at least one CM planning call while 82 (76%) participated in at least two planning calls by early 2012. The content of the calls was guided by a worksheet, detailing specific aspects about the proposed CM program, patient characteristics, and existing clinical structure. Between two and six clinics participated on each call, during which forms were reviewed and any potentially concerning

issues were discussed. For example, clinics that indicated they only wanted to test urine samples once weekly, or those reporting a Monday-Wednesday schedule, were reminded of the need to ascertain abstinence throughout the duration of the week.

After the initial call, clinicians modified CM plans if necessary and created an "Introduction to CM" handout for patients (examples provided in Petry, 2012). A second pre-implementation call occurred 1–2 months later, during which plans were re-reviewed and other initiation concerns addressed. These included tasks such as obtaining and storing reinforcers and "fishbowls," making agreements with laboratories for "stat" testing or purchasing point-of-care testing kits, and adapting forms for tracking patient progress and reinforcers earned.[15]

D. Initial implementation calls

After enrolling their first patient into the CM program, clinicians participated in additional phone consultation. These calls were also guided by a worksheet, that inquired about the number of patients enrolled, number of samples collected per patient, number that tested negative, numbers of excused and unexcused absences, and how often urine test results were available before patients left for the day. The form inquired about use of CM tracking forms and reminder slips, as well as if therapists were asking patients about what they were purchasing with Canteen coupons. Forms also queried about aspects that went well and those that did not, as well as concerns and questions. During calls, trainers reviewed forms from each clinic.

The vast majority of clinicians noted encouraging effects of CM. Most described the process to be smoother than anticipated, and excitement was apparent on the part of many providers and patients. A general theme was that initial skepticism abated once patients responded well to the technique. A large proportion of urine samples submitted tested negative, and many clinicians reported low rates of unexcused absences in CM patients.

In about 15% of clinics, initial implementation calls uncovered that CM was being applied to only the most severely dependent and problematic patients. These cases were identified on the basis of high rates of positive sample submission and/or high rates of early attrition. In these cases, clinics were urged to expand their inclusion criteria to all patients with evidence of recent stimulant use, rather than just those who, for example, left only positive samples at treatment initiation or only those who had failed multiple prior treatment attempts.

The most common deviation from protocol related to failure to give reminder slips to patients. These slips are intended for use at each CM session, and they outline the number of draws earned that day and the number possible at the date of the next CM session.[15]

About 1–2 months after the initial implementation call, a second call occurred. Progress since the last call was reviewed, and the initial implementation forms were updated. In most cases, problems identified on the initial call were corrected. In particular, clinicians began utilizing reminder slips by the second call, the vast majority of whom noted benefits in terms of patients' understanding of the reinforcement schedule. Many clinicians reported that the

reminder slips served a secondary purpose in that some patients noticed the slips when tempted to use drugs, and chose not to use to retain high numbers of draws.

As of November 2012, 77 clinics from 75 (69%) of the 108 CM-funded stations had begun implementing CM across all 21 VISNs. Sixty-eight of the clinics were reinforcing stimulant abstinence, 1 abstinence from all drugs, 2 abstinence from alcohol, and 6 attendance. Across all 77 clinics, only one elected to apply a reinforcement system other than the prize reinforcement system, i.e., the voucher approach.[9] The remaining 76 clinics are using the prize reinforcement system, with 61 clinics providing access to Canteen gift cards as the reinforcers, 2 clinics that have no Canteen onsite are using the standard prize CM set-up with prizes onsite, and 13 clinics are providing options of both onsite prizes and Canteen gift cards as reinforcers.

E. Later implementation calls

The final calls were scheduled at the point of time in which the first patients in each clinic completed the CM protocol, and again about 2 months later. These calls again utilized implementation forms and reviewed completion rates of CM patients as well as issues that arise during the course of CM termination. Trainers emphasized that the average case load was about 2–4 CM patients at a time when CM was added to existing clinical responsibilities.[27–28] Accordingly, applying CM to smaller numbers of patients was highlighted as an optimal approach for many settings. Several clinics, nevertheless, had enrolled 30 or more patients in the CM program within about 6 months of starting. These clinics were characterized as being larger, having substantive numbers of stimulant abusing patients, having no or minimal staffing shortages, and being highly committed to and enthusiastic about CM delivery.

G. The future of CM in the VA

Trainers, clinicians and patients considered this initial training and implementation effort to be highly successful. The overwhelming majority of implementation calls were positive in nature, with some initially highly skeptical clinicians becoming strong proponents of CM after implementation.[6] Clinicians prepared a series of case reports of CM's effectiveness, with some describing dual diagnosis patients with substantial personal and psychiatric conditions who responded very well to CM. Some patients wrote personal accounts of how CM strengthened their recovery efforts.

Despite the overall positive experiences, this initiative also revealed issues that should be considered in future training efforts. First, in-person trainings should be considered the ideal starting point, as many misperceptions about CM[5,7,29,30] can be addressed in this context. CM experts should oversee design of CM protocols as providers' often integrated features inconsistent with behavioral principles (e.g., low frequency or magnitude of reinforcement, lack of immediacy of reinforcement[15]), even when a standard CM template was provided. Implementation should be supervised as closely as possible because over half the clinicians strayed from ideal implementation in terms of one or more aspects. In the absence of reviewing audiotaped CM sessions,[27–28] check sheets that tap key CM principles were effective for identifying and correcting deviations.[15]

In late summer 2012, the VA committed additional funding to support continued CM delivery, given its promising start. Clinics were eligible to receive up to an additional $5000 in Canteen gift cards, which was matched dollar for dollar to that committed by the host clinic. In other words, clinics that agreed to provide $2000 in costs toward CM (for urine testing and/or Canteen gift cards) received an additional $2000 in gift cards from the VA Central office. This CM Sustainability Incentive Program was designed to encourage continued availability of CM by clinics that had implemented CM and experienced its benefits. To date, nine stations have qualified for this matching incentive by committing their own resources to continued CM delivery.

Summary

CM has been well researched, but dissemination of this intervention has been rare in the US,[15,27–28] and many prior adoption efforts generally had poor concordance with behavioral principles.[7,31] In contrast, the United Kingdom has begun applying CM more widely,[32,33] and with more appropriate magnitudes of reinforcement,[34] perhaps in part because their health care system is more of a closed system, similar to the VA, in which benefits of CM are more likely to be realized by funders. Much more research is needed to evaluate the cost-effectiveness and cost-benefits of CM, and policy decisions ultimately need to consider both payor and societal perspectives.

This VA initiative is a demonstration of how training and oversight in delivery of an evidence-based practice can be successful for implementing interventions on a large-scale basis, and similar approaches are being applied in the context of training in other evidence-based practices.[35] However, these efforts would likely not have been successful without institutional leadership and financial support, as well as ongoing consultation and active involvement by experts in intervention design and delivery. Although this was not a research project, evaluation of the effectiveness of these and similar projects may inform other dissemination efforts and ultimately improve outcomes of substance using patients not only in the VA, but also substance abuse treatment clinics more generally.

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