Important Principles of Contingency Management: Developing treatment plans for substance use disorders informed by empirically-based conceptualizations of drug use.

Randall E. Rogers, Ph.D.

- Three goals
  - 1) To describe a variety of ways CM programs have been developed for substance abuse treatment for the purposes of developing a good understanding of CM.
  - 2) To describe important behavioral principles behind CM, with emphasis on how some EBPs emphasize these principles.
  - 3) To explain how empirically-based, behavioral conceptualizations of substance use/abuse are empowering, recovery-focused, and humanistic.

- Why do some people use/abuse drugs?
- Based on the best available research available to us, what are some of the most important things we can do to help persons overcome substance use disorder?

Three Goals

1) To describe a variety of ways CM programs have been developed for substance abuse treatment for the purposes of developing a good understanding of CM.
   - Examples of CM interventions
   - Summary of CM.

2) To describe important behavioral principles behind CM, with emphasis on how some EBPs emphasize these principles.
   - Context, reinforcement, availability of non-drug related reinforcers.
   - The Community Reinforcement Approach
   - Knowledge is the answer in as much as lack of information contributes to the problem.
3) To explain how empirically-based, behavioral conceptualizations of substance use/abuse are empowering, recovery-focused, and humanistic.
   - The Vast majority of us can relate, somehow or another…..

Effects of Voucher-Based Incentives on Abstinence from Cigarette Smoking and Fetal Growth Among Pregnant Women

S.H. Heil, S.T. Higgins, I.M. Bernstein, L.J. Solomon, R.E. Rogers, C.S. Thomas, G.J. Badger, & M.E. Lynch.

2008, Addiction, 103 (6), 1009-1018

CM, Smoking Cessation, and Pregnancy

- 82 women
- Randomly assigned to experimental or control groups

CM, Smoking Cessation, and Pregnancy

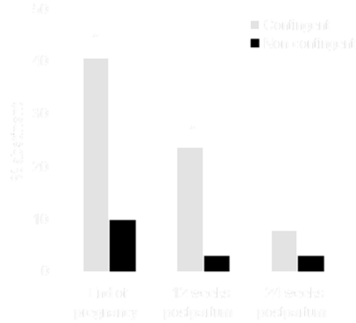
Experimental Group - Contingent voucher condition:

- Vouchers earned contingent on ***biochemically-verified abstinence.***
  - Vouchers began at $6.25, escalated at a rate of $1.25 per consecutive negative specimen up to a maximum of $45.00. Total possible earnings was approximately ***$1100.***

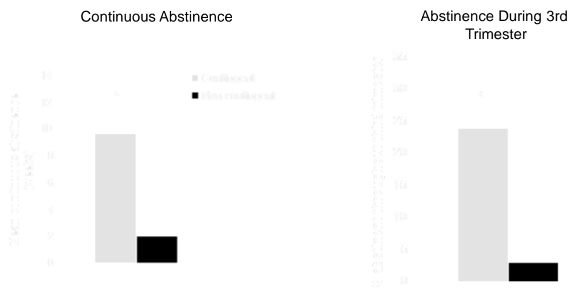
Control Group - Non-contingent voucher condition:

- Vouchers were delivered independent of smoking status.
  - Values were $11.50 per visit in antepartum and $20.00 postpartum.

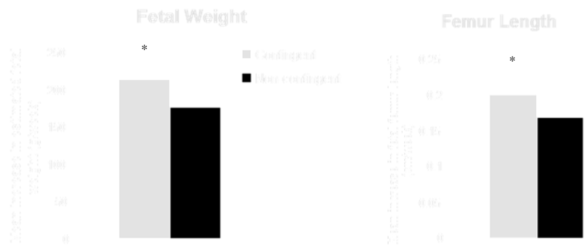
Results



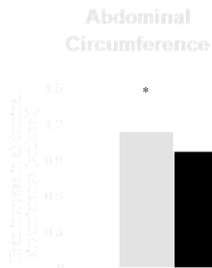
Results



Results



Results



Summary

- Results provide compelling evidence for the efficacy of CM in promoting abstinence from cigarettes among pregnant women.
- There was significantly greater fetal growth during the third trimester in the contingent compared with the non-contingent condition.
- "Contingency Management helps babies grow."
- This is one of the few psychosocial interventions to demonstrate such a substantial medical/biological effect.

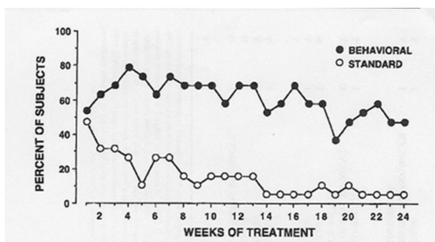
Other CM studies

- **<u>Achieving Cocaine Abstinence with a Behavioral Approach to</u>.** *Higgins, et al., 1993, American Journal of Psychiatry 150, 5, p. 763 – 769.*
- **<u>Incentives Improve Outcome in Outpatient Behavioral Treatment of Cocaine Dependence.</u>** *Higgins, et al., 1994, Archives of General Psychiatry, 51, p. 568 – 576.*
- **<u>Community Reinforcement Therapy for Cocaine Dependent Outpatients</u>**. *Higgins, et al. 2003, Archives of General Psychiatry, 50, p 1043 – 1052.*

Other CM studies

- **<u>Achieving Cocaine Abstinence with a Behavioral Approach to</u>.** *Higgins, et al., 1993, American Journal of Psychiatry 150, 5, p. 763 – 769.*
  - Experimental Group
    - Monetary-based vouchers contingent on cocaine-negative urinalyses occurring thrice, weekly.
    - The Community Reinforcement Approach.
  - Control Group
    - "traditional" counseling based on the disease model and self help principles.

Achieving Cocaine Abstinence with a Behavioral Approach



Higgins et al. (1993). Achieving cocaine abstinence with a behavioral approach. American Journal of Psychiatry, 150, 5, 763-769.

Other CM studies

- **<u>Achieving Cocaine Abstinence with a Behavioral Approach</u>.** *Higgins, et al., 1993, American Journal of Psychiatry 150, 5, p. 763 – 769.*
- Results
  - **58% of the experimental group** completed treatment, versus **11% of the control group**.
  - **42% of the experimental group** achieved 16 weeks of continuous abstinence, versus **5% of the control group.**

Other CM studies

- **<u>Achieving Cocaine Abstinence with a Behavioral Approach</u>.** *Higgins, et al., 1993, American Journal of Psychiatry 150, 5, p. 763 – 769.*
  - **<u>CM</u>**: The Vouchers served as the “contrived” reinforcers to help achieve and maintain initial abstinence until the “naturalistic” reinforcers could take over.
  - **<u>CRA</u>**: The CRA helped the patients come in contact with “naturalistic” reinforcers.

Contingency Management

REVIEW doi:10.1111/j.1360-0443.2006.01311.x

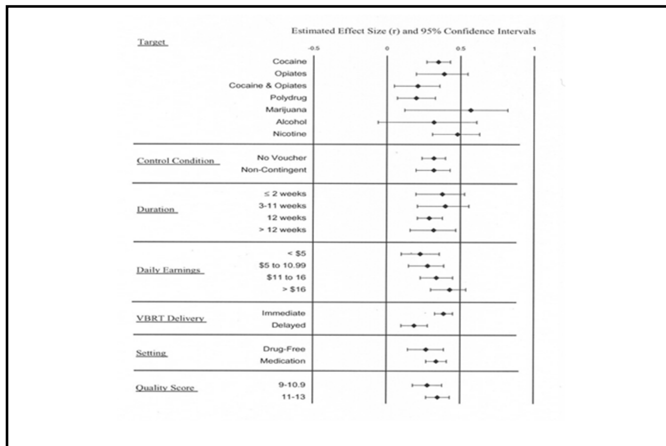
A meta-analysis of voucher-based reinforcement therapy for substance use disorders

Jennifer Plebani Lussier[1], Sarah H. Heil[2], Joan A. Mongeon[3], Gary J. Badger[3] & Stephen T. Higgins[1,2]

Departments of Psychology,[1] Psychiatry[2] and Medical Biostatistics,[3] University of Vermont, USA

Contingency Management

- Voucher-based reinforcement therapy (VBRT) published between 1/91 & 3/04
- 65 studies, including 40 where effects of contingent vouchers were isolated
- Studies grouped by moderator variables: type of drug targeted, control, duration of VBRT, voucher $ value, voucher delivery immediate or delayed, study setting



Contingency Management

- Prendergrast, Pdous, Finney, Greenwell and Roll, (2006). Contingency Management for treatment of substance use disorders: a meta-analysis.
  - 47 comparisons from studies based on a treatment-control group design.
  - Published between 1970 and 2002.
  - Mean effect size = .42.
  - Effects sizes greater for cocaine or opiates than for polydrug dependence.

Contingency Management

- "Overall, the relatively large number of empirical studies on CM, the variety of drugs and client populations with which it has been used, the high methodological quality of CM studies and the relatively high mean effect size provide strong support for CM as being among the more effective approaches to promoting abstinence during and after the treatment of drug dependence disorders" p.1556.

Description of a Clinical Project Using Contingency Management to Improve Outcomes of a Veterans' Vocational Rehabilitation Program

Randall Rogers, Larry Brady, Denise Heet, David Muckerheide, Adam Rackers, Paul Compney, Patsy Quint, Jennifer Craft

Harry S. Truman Memorial Veterans Hospital
Columbia, Missouri
(HSTMVH)

VA Compensated Work Therapy Program

- The purpose of the Compensated Work Therapy (CWT) program is to provide the services necessary to facilitate obtaining and keeping gainful, competitive employment.

VA Compensated Work Therapy Program

- Functions very similarly to a temp agency.
- The Veterans are placed in jobs in various departments of the hospital (maintenance, housekeeping, food service), or in business in the community.
- The department (or business) pays the CWT program, which in turn pays the Veteran. Thus, the CWT program has an income of its own.
- A portion of the income of the CWT program is used to fund the CWT Incentive Program.

CM and CWT

- How can contingency management be used to improve outcomes of CWT programs?
  - Maintain abstinence
  - Obtain employment

CM and CWT

- Two published studies reported positive effects of adding contingency management to the CWT program.
  - Drebing et al (2005). The impact of enhanced incentives on vocational rehabilitation outcomes for dually diagnosed veterans.
  - Drebing et al (2007). Adding Contingency Management intervention to vocational rehabilitation: Outcomes for dually diagnosed veterans.
  - Reinforced abstinence with monetary-based vouchers on an escalating schedule.
  - Reinforced job search related activities with monetary-based vouchers on an escalating schedule.

CM and CWT

- 72% of CWT only and 50% of CWT + incentives relapsed by week 16.
- 75% of CWT only and 67% of CWT + incentives relapsed by the end of the 9-month follow up.

CM and CWT

- 28% of the CWT Only condition versus 50% of the CWT + Incentives group obtained employment at 9 month follow up.

CWT Incentive Program at the VA

- Clinical project
  - No research staff
  - No staff whose time is dedicated solely to the project
  - No external funding
  - Implemented within existing clinical structures/procedures

CWT Incentive Program

- Procedures
  - Orders are placed for a urinalysis every Monday and Thursday for each participant.
  - Monday and Thursday mornings, the participants arrive at the nurses' station on the substance abuse unit to provide the urine sample. The provision of the urine sample is observed by nursing staff.
  - The nursing staff sends the samples to the lab at the hospital for analysis (results within 6 hours).
  - Breath Alcohol Tests also are required at the time of the urine collection. Results of the BAT are documented in the participant's chart by the 2C nurse at the time of the test.

CWT Incentive Program

- Procedures
  - In the late morning or early afternoon of the sample collection days, a CWT staff member reviews Veterans' charts to confirm that they provided the samples and to view the results of the samples.

CWT Incentive Program

- Procedures
  - 3:00 pm on sample collection days, the Veterans return to the substance abuse unit.
  - At this time, a CWT staff member provides vouchers to all eligible Veterans. Also, each eligible Veteran does prize bowl draws.

CWT Incentive Program: incentive schedule

week	1	sample	1	2	dollars	
		sample	2	3	dollars	
week	2	sample	1	4	dollars	
		sample	2	5	dollars	
week	3	sample	1	6	dollars	
		sample	2	7	dollars	
week	4	sample	1	8	dollars	
		sample	2	9	dollars	
week	5	sample	1	10	dollars	
		sample	2	10	dollars	
week	6	sample	1	10	dollars	
		sample	2	10	dollars +	1 prize bowl draw
week	7	sample	1	10	dollars	1 prize bowl draw
		sample	2	10	dollars +	1 prize bowl draw
week	8	sample	1	10	dollars	1 prize bowl draw
		sample	2	10	dollars +	1 prize bowl draw
week	9	sample	1		prize bowl	1 draw
		sample	2		prize bowl	2 draws
week	10	sample	1		prize bowl	3 draws
		sample	2		prize bowl	4 draws

week	11	sample	1		prize bowl	5 draws
		sample	2		prize bowl	5 draws
week	12	sample	1		prize bowl	5 draws
		sample	2		prize bowl	5 draws
week	13	sample	1		prize bowl	6 draws
		sample	2		prize bowl	6 draws
week	14	sample	1		prize bowl	6 draws
		sample	2		prize bowl	6 draws
week	15	sample	1		prize bowl	6 draws
		sample	2		prize bowl	6 draws
week	16	sample	1		prize bowl	6 draws
		sample	2		prize bowl	6 draws

CWT Incentive Program: results

- The CWT participants (N=30)
  - primarily male
  - Caucasian
  - between the ages of 50 and 59
  - alcohol dependence was most common (a challenge when implementing a contingency management intervention).
  - 65.52% of the sample had at least one co-occurring disorder.
  - 26.67% had more than one substance use disorder.

CWT Incentive Program: results

- Of 951 breath and urine samples collected, 910 (95.69%) were negative.
- **Sixty percent** of Veterans had no positive samples and no no-shows throughout the four months of the program.
- There appeared to be a trend of increased drug use through the third month, which then decreased in the fourth month.

CWT Incentive Program: results

- There have been 30% fewer drug-related discharges among this sample compared with Veterans who participated in the CWT program prior to implementation of the Incentive Program between 2006 and 2010.
- There has been a 20% increase in the number of Veterans who obtained gainful employment prior to discharge.
- However, because of the relatively small sample size, more data is needed.
- Veterans earned an average of $226.43 in vouchers, with a range of $35 to $600.

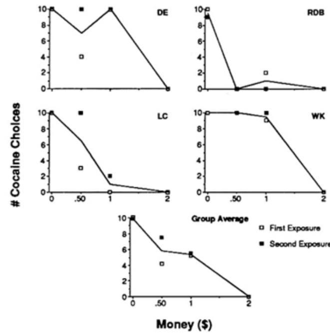
CWT Incentive Program: results

- Examples of items for which participants exchanged the incentives.
  - A watch
  - A camcorder to record grandsons' games
  - Cooking supplies
  - iPad
  - Television

Important Principles of CM.

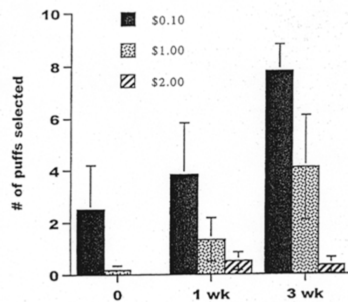
- Higgins ST, Heil SH, Lussier PB. Clinical implications of reinforcement as a determinant of substance use disorders. Annual Review of Psychology, 2004; 55:431-461.
- Availability of non-drug-related reinforcement. More specifically, the availability of and engagement in other enjoyable, fulfilling activities that are not drug-related.
  - Human laboratory, non-human laboratory, clinical intervention, and epidemiological studies.

Laboratory research with humans



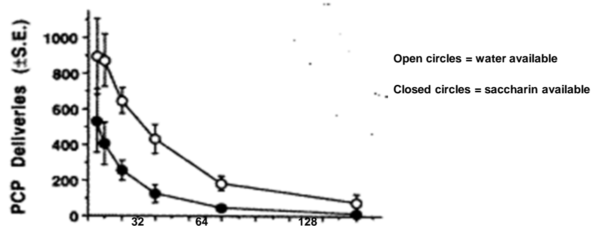
Higgins, Bickel, and Hughes (1994). Influence of an alternative reinforcer on human cocaine self-administration. Life Sciences, 55, 179 – 187.

Laboratory research with humans



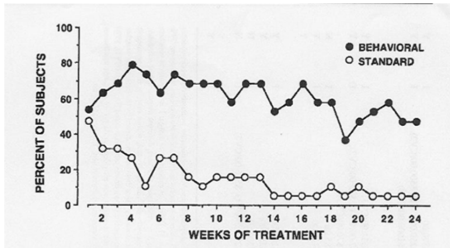
Roll, Reilly & Johanson (2000). The influence of exchange delays on cigarette versus money choice: a laboratory analog of voucher-based reinforcement therapy. Exp Clin. Psychopharm, *8, 366-370*

Laboratory research with non-humans



Carroll, Carmona, and May (1991). Modifying drug-reinforced behavior by altering the economic conditions of the drug and a nondrug reinforcer. Exp Anal Behav, 56, 2, 361–376.

Clinical Intervention Research



Higgins et al. (1993). Achieving cocaine abstinence with a behavioral approach. American Journal of Psychiatry, 150, 5, 763-769.

Research

- **Across species**
  - Humans, non-human primates, rats, birds, snakes,
- **Special populations**
  - Adolescents, persons with serious mental illness, pregnant women, homeless populations, persons involved in the criminal justice system.
- **Across drugs of abuse**
  - Cocaine, meth, marijuana, alcohol, opioids
- **In both laboratory and clinical settings**
  - Human laboratory, non-human laboratory, clinical intervention, epidemiological
- **With a variety of non-drug reinforcers**
  - Vouchers, Money, Prize bowl draws, Housing, Take home methadone doses
- **Using other therapeutic targets**
  - Medication Compliance, clinic attendance,

Research

- How do these research findings inform substance abuse treatment?
- “Take-home” messages:
  1. Environmental context, reinforcing effects of the drug, and availability of non-drug reinforcers are all important determinants of drug use. Thus, interventions targeted at these factors should be effective in decreasing drug use.
  2. The importance of environmental context (specifically, the availability of non-drug reinforcers) on drug self-administration has been demonstrated:
     - Across species
     - Across drugs of abuse
     - In both laboratory and clinical settings
     - With a variety of non-drug reinforcers

Treatment Conceptualization

- Treatments developed within an operant framework are designed to reorganize the drug user's environment to systematically:
  - increase the rate of reinforcement obtained while abstinent from drug use.
  - reduce or eliminate the rate of reinforcement obtained through drug use and associated activities.
- Primary emphasis is placed on decreasing drug use by systematically increasing the availability and frequency of alternative reinforcing activities.

Treatment Conceptualization

- The specific content of treatment will vary depending on the individual being treated. However, the overarching goal of systematically changing the individual's environment to reinforce abstinence from substance use remains a constant.

Treatment Conceptualization

- Artificial, "contrived" reinforcers (i.e. CM) have been have been shown to improve initiation and maintenance of abstinence during the period of early abstinence when the likelihood of relapse is high.
- As a person maintains abstinence with the help of these artificial, "contrived" reinforcers, naturalistic reinforcers are more likely to have an effect on behavior.
- Ideally, when the "contrived" reinforcers are removed, the person will have developed enough naturalistic reinforcers that can effectively compete with substance use
  - (this is where the Community Reinforcement Approach comes in – more about this later).

Finding incentives for CM

- Creativity
  - Take home methadone doses
  - Med compliance and housing
  - Antabuse
- Research
  - Housing
  - Access two work (Kenneth Silverman)

Finding incentives for CM

- Donations:
  - Garcia-Rodriguez O, Secedes-Villa R, Higgins ST, Fernandez-Hermida JR, Carballo JL.. (2008). Financing a voucher program for cocaine abusers through community donations in Spain, *Journal of Applied Behavior Analysis*, 41, 623-628.
    - Needs assessment
    - 38% of business donated.
    - Raised $20,371.
    - Cost Analysis: net benefit of $15,517.

Finding incentives for CM

- Donations:
  - Other studies
    - Donation rates of 19% to 20%.
    - Gift certificates to grocery stores, restaurants, movie theaters.
    - Baby items – diapers, toys, clothes, etc.
    - Athletic equipment
    - Tickets to sporting events
    - In-line skates
    - Bikes
    - Trips

Finding incentives for CM

- Deposit contracting
  - Older research literature.
  - Not nearly as much research on this versus vouchers, prize bowls, etc.
  - The person makes a deposit at the outset of treatment. The person earns this back as treatment goals are achieved.
  - May be a good option for employee-based health promotion programs (i.e. smoking cessation).

Finding incentives for CM

- Deposit contracting
  - May be a good option for employee-based health promotion programs (i.e. smoking cessation).
    - 10 participants donate $75.
    - Morning and afternoon Carbon Monoxide monitoring.
    - Earn money back for samples < 4ppm.

Finding incentives for CM

- Deposit contracting
  - May be a good option for employee-based health promotion programs (i.e. smoking cessation).

Abstinence Monitoring Schedule

		Before work CO Sample	After work CO Sample	Bonus for both clean samples	TOTAL possible for the day
Day 1	Monday	$4.00	$4.00	$2.00	$10.00
Day 2	Tuesday	$4.00	$4.00	$4.00	$12.00
Day 3	Wednesday	$4.00	$4.00	$6.00	$14.00
Day 4	Thursday	$4.00	$4.00	$8.00	$16.00
Day 5	Friday	$4.00	$4.00	$10.00	$18.00

Finding incentives for CM

- Deposit contracting
  - May be a good option for employee-based health promotion programs (i.e. smoking cessation).
    - Participants who achieve 100% negative samples will have their names put into a hat for a "lottery."
    - The name who is drawn wins all of the money that is left over.
    - Or, could draw a few names. The first name drawn wins the most money, the second name wins a bit less, and so on.

Finding incentives for CM

- There appears to be a huge discrepancy between the large, robust scientific literature on CM and the dissemination of CM interventions.

Finding incentives for CM

- Though the use of CM started, and gained momentum, in substance use clinics, it has been more widely utilized in other settings.
  - Drug courts – CM distilled from and with in the correctional system.
    - Certainty
    - Immediacy
    - Magnitude
  - Conditional cash transfers – emerged out of economics and health policy.

Contingency Management: Criticisms

- Criticism of CM:
  - "CM costs too much."
- Responses:
  - "CM is the only therapy that costs money *only* when it works."
  - "Other substance abuse treatments, and treatments for other psychiatric and medical problems, cost much more than CM. Inpatient treatment is at least 100 times more expensive than CM per day." So, why do we say CM costs too much?

Contingency Management: Criticisms

- Criticism of CM:
  - "you shouldn't reward somebody for something they should be doing anyway."
- Responses:
  - I don't think many of us would want to live a world where we don't reward prosocial (desired) behaviors.
  - So, you're saying you, and most people in general, do everything you "should" do?

Contingency Management: Criticisms

- Criticism of CM:
  - "Don't patients just start using again once treatment is over?"
- Responses:
  - Yes, many patients do…

    ….just like every other treatment for substance abuse.
  - However, as a group, people achieve more abstinence with CM than other interventions, and during treatment abstinence predicts post treatment abstinence.

Contingency Management: Criticisms

- Criticism of CM:
  - "CM doesn't increase 'intrinsic motivation' for abstinence"
- Responses:
  - "Yes it does."
  - What actually *has* been shown to improve "intrinsic motivation" and cause behavior change?
  - What is "intrinsic motivation?"

Treatment – The Community Reinforcement Approach (CRA)

- Initial study by Hunt and Azrin (1973).
  - 16 severe alcoholics admitted to a state hospital
  - Divided into 8 matched pairs. Pair members were randomly assigned to CRA plus Standard Hospital Care or Standard Hospital Care alone.
  - At 6-month follow up, time spent drinking was 14% for the CRA group and 79% for the Standard Care group.

Treatment – The Community Reinforcement Approach (CRA)

- Outcome research
- **Community Reinforcement Therapy for Cocaine Dependent Outpatients**. *Higgins, et al. 2003, Archives of General Psychiatry, 50, p 1043 – 1052*
  - When comparing CRA + CM to CM only, CRA has demonstrated some additional therapeutic benefits.
    - Longer treatment retention
    - Decreases in drug use
    - Decreases frequency of drinking to intoxication
    - Decreases frequency of drinking
    - Increases days of paid employment
    - Decreases legal problems
    - Decreases hospitalizations

Treatment – The Community Reinforcement Approach (CRA)

- Outcome research
- **<u>Incentives improve outcome in outpatient behavioral treatment of cocaine dependence.</u>** *Higgins, et al. 1994, Archives of General Psychiatry, 51, p 568 – 576.*
  - When comparing CM + CRA to CRA only, CM has demonstrated some additional therapeutic benefits.
    - Longer treatment retention
    - Decreases in drug use
    - Improvements in the ASI Drug and Psychiatric Scales.

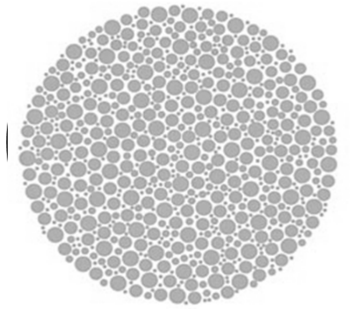
Treatment – The Community Reinforcement Approach (CRA)

- Outcome research
  - Research supporting the efficacy of CRA is quite robust. There has been at least one meta-analysis supporting the efficacy of CRA as a treatment for SUDs.
  - The evidence is strong in support of CRA's efficacy in treating alcohol dependence, even when the clinical situation is complicated by homelessness.
  - The evidence is also quite strong regarding the efficacy of CRA combined with voucher-based CM for outpatient treatment of cocaine dependence.
  - Experimental evidence demonstrates that CRA and voucher-based CM each contribute significantly to the positive outcomes achieved with that intervention.

Treatment – The Community Reinforcement Approach (CRA)

- Outcome research
  - Roozen, et al. (2004) CRA meta-analysis.
  - <u>Strong evidence</u> (consistent findings in several high quality RCTs)
    - Reducing number of drinking days.
    - Reducing cocaine use
  - <u>Moderate evidence</u> (generally consistent findings in at least one high quality RCT and lower quality RCT)
    - CRA + disulfiram versus Usual Care + disulfiram
  - <u>Limited evidence</u> (only one RCT, high or low quality)
    - Methadone maintenance
    - Bupernorphine taper

Visual example of a persons life when trying to avoid drugs



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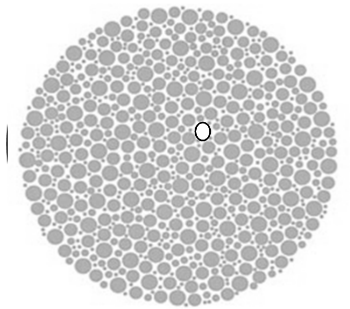

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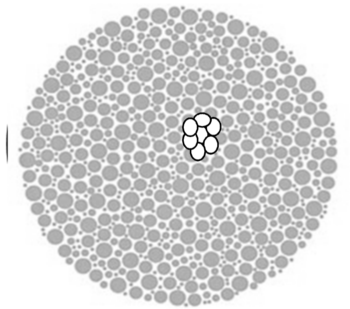

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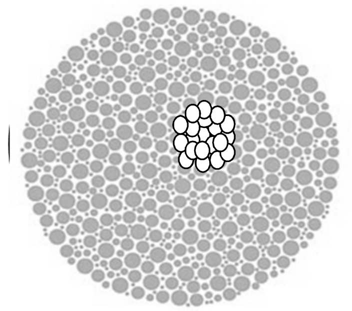

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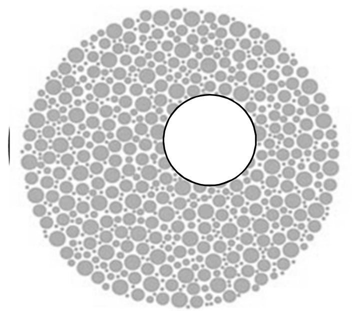

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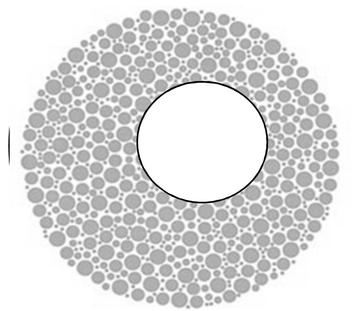

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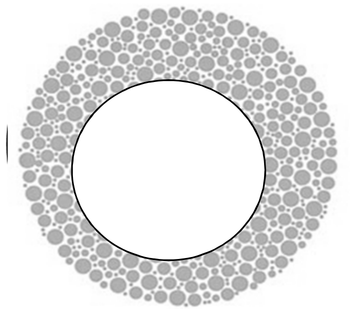
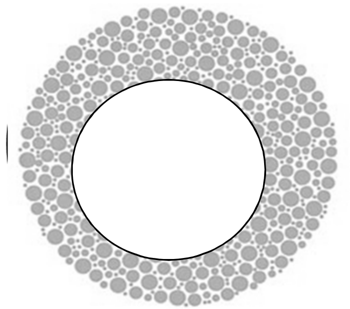


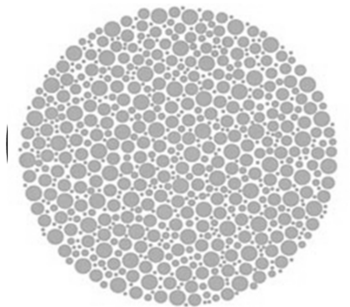
CM, CRA and ME

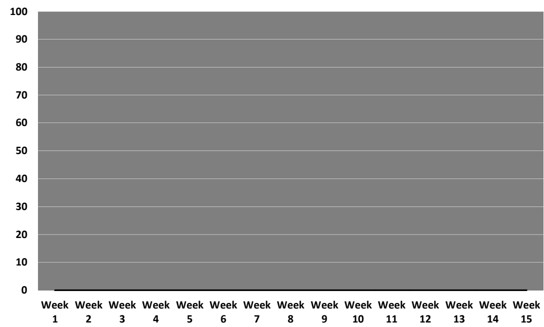
- Focus on empirically-based conceptualizations of drug use
- Increase the rate of reinforcement obtained while abstinent from drug use.



CM, CRA and ME

- Focus on empirically-based conceptualizations of drug use
- Increase the rate of reinforcement obtained while abstinent from drug use.




Negative consequences of drug use and time in treatment
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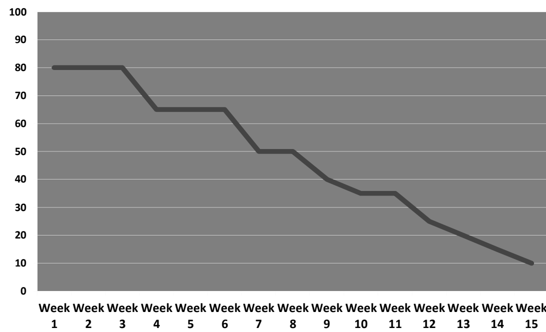
Week 15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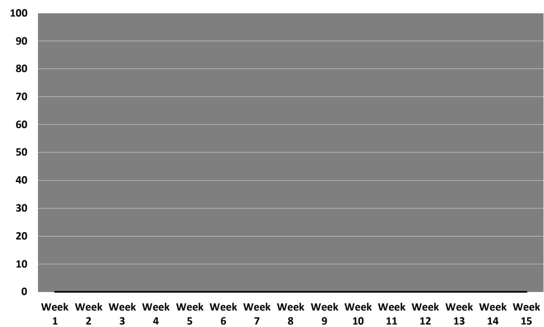
Good things about abstinence
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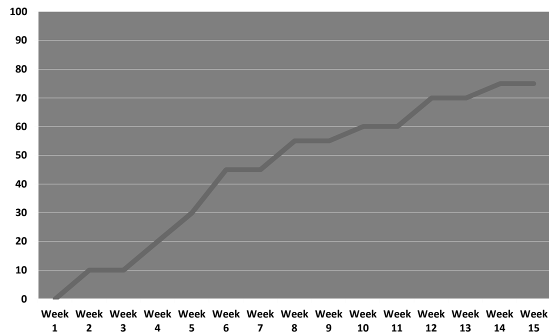
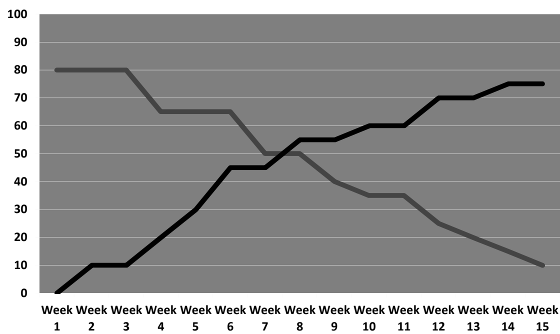
Week 15

Good things about abstinence



Negative consequences of drug use AND positive things about abstinence



Negative consequences of drug use AND positive things about abstinence

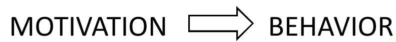
- Bad things about drug use motivate people to try to achieve abstinence
- Good things about abstinence motivate people to maintain abstinence.
  - How can we help patients come in contact with good things about abstinence?

Motivation / "Readiness"

- "they don't really 'want' to change"
- "they're just not 'ready'."
- Within an operant framework, motivation is not thought of as a characteristic of the patient per se but rather as a product of current and past reinforcement contingencies.
- The main focus of treatment is to directly ensure the availability of sufficient reinforcement to promote and sustain therapeutic change.

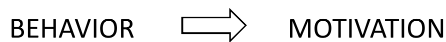
Motivation / "Readiness"

- "A product of current and past reinforcement contingencies."
  - Many people think of the relationship between motivation and behavior like this:



Motivation / "Readiness"

- "A product of current and past reinforcement contingencies."
  - Research suggests that a more useful (and accurate) way to think about the motivation and behavior is like this:



Skydiving
Ice cream
Stress and relapse

Motivation / “Readiness”

- “A product of current and past reinforcement contingencies.”

  BEHAVIOR ⇨ MOTIVATION

- This is the focus of CRA and aspects of Motivational Enhancement. Further, it is one of the behavioral principles associated with contingency management.

Therapist Characteristics

- Flexibility
  - Therapists must try to work around patients’ schedules and make counseling as convenient for them as possible. The therapist’s attitude should reflect an effort to meet the individual patient’s needs.
  - In general, therapists should express what they think are optimal goals, but if patients are not ready to make these changes, their positions are respected. The therapist’s goal then becomes helping patients progress to the point where they may want to work on these goals.

Therapist Characteristics

- Empathy
  - Therapists must exhibit empathy and good listening skills.
  - In the initial stage of treatment, active listening skills can be used to help develop an effective relationship and to facilitate goal-setting.
  - As a general rule, confrontation is strongly discouraged as a means of gaining compliance with therapeutic activities and goals.
  - Therapists should use their professional counseling skills and appropriate behavioral procedures (e.g., prompts, shaping successive approximations, social reinforcement) to gain treatment compliance.

Therapist Characteristics

- Proactive
  - Therapists and patients should adopt an active, can-do, make-it-happen attitude throughout treatment.
  - Therapists should do whatever it takes to help patients make lifestyle changes.
  - The therapist's motto is "we can make it happen." Therapists must model action behavior whenever appropriate.

Therapist Characteristics

- Directive but Collaborative
  - Treatment Should encourage patients to set lifestyle change goals.
  - Therapists are also expected to have ideas about specific behavior changes necessary for increasing drug abstinence and ways to implement such changes.
  - However, therapists must be careful not to present their views in an authoritarian style that makes patients feel that they are being told what to do.

Therapist Characteristics

- Social Reinforcement
  - Therapists should provide social reinforcement frequently for all appropriate efforts and changes exhibited by patients.
  - This is important because, for many patients, change will be slow and difficult.
  - The social reinforcement provided by therapists and clinic staff may be the only source of reward and encouragement available to patients during the early stages of the program.

Assessment

- Detailed information should be collected on drug use, treatment readiness, psychiatric functioning, vocational status, recreational interests, current social supports, family and social problems, and legal issues.
- Where, when, with whom, how, how much, what happens during, what are consequences, what is the Veteran's report of reasons to quit.

Problem List

Substance Use: *Cocaine use: Intranasal, 3 to 4 times per week, .25 to 1 gram per occasion. Spends $100 to $500 per week on cocaine.* *Alcohol: 6 – 12 beers and 4 or 5 shots 4 to 5 times per week.*
Medical *None*
Psychiatric *Depressed mood. Often Irritable. Symptoms of depression*
Employment/Vocation/Education *Cannot work due to disability.* *Does have some vocational activities as he teaches guitar lessons 10 to 20 hours per week, but this does not occupy much time and is unstructured. He has no plans to develop this in any way.*

Problem List (cont.)

Family Relations *Relationship with wife and kids is strained because of substance use. Doesn't spend much time with family. Doesn't spend much time with grandchildren. Wants a better relationship with family, particularly grand kids.*
Social *Prosocial activities are sporadic. Have declined in recent years. Most people he spends time with are substance users.* *Does have friends who are not drug users and has activities during which he does not use. These includes friends from his sportsman's club with whom he hunts and fishes and friends from his motorcycle organization with whom he rides and does charity work.*
Recreational *Currently his recreational activities are sporadic and few. Identified a few hobbies from years ago such as building models. Loves taking care of his dog and taking him to the park or the woods.*

Criticisms of behaviorally-based psychosocial treatments

- Criticism:
  - "these treatments don't get at the 'root causes' of substance abuse."
- Responses
  - A "root cause" implies that there is some abnormal or pathological process that caused the onset of the problem or behavior. However, things that maintain a behavior are often different than things that initiated that behavior.
  - Examples of co-occurring disorders

Criticisms of behaviorally-based psychosocial treatments

- Criticism:
  - "these treatments don't get at the 'root causes' of substance abuse."
- Responses
  - Here is what does **not** get at the "root causes" of substance abuse:
    - Treatment for depression
    - Treatment for anxiety
    - Trying to increase "self efficacy"
    - Trying to improve self esteem
    - And so on……

TEN ESSENTIAL FACTORS FOR EFFECTIVE CONTINGENCY MANAGEMENT PROGRAMS

1. The details of the intervention are carefully explained to patients in the form of a written contract prior to beginning treatment.
2. The response being targeted by the CM intervention, drug abstinence, is defined in objective terms (i.e., drug-negative urine toxicology results).
3. The methods for verifying that the target response occurred are well specified and objective (urine toxicology testing).
4. The schedule for monitoring progress is well specified.
5. The schedule is designed to include frequent opportunities for patients to experience the programmed consequences.

TEN ESSENTIAL FACTORS FOR EFFECTIVE CONTINGENCY MANAGEMENT PROGRAMS (continued)

6. The duration of the intervention is stipulated in advance.

7. The intervention is focused on a single target (drug abstinence). CM interventions that focus on a single target on average produce larger treatment effects than those that target multiple targets (i.e., abstinence from multiple substances .

8. The consequences that will follow success and failure to emit the target response are clear (consequences including voucher reinforcement schedule carefully detailed).

TEN ESSENTIAL FACTORS FOR EFFECTIVE CONTINGENCY MANAGEMENT PROGRAMS (continued)

9. There is minimal delay in delivering designated consequences (urine specimens are analyzed onsite and vouchers earned are delivered immediately following testing). Delivering the consequence on the same day that occurrence of the target response is verified produces larger treatment effects than delivering the consequence at a later time.

10. The magnitude of reinforcement that can be earned is relatively substantial (maximal total earnings = $997.50). Larger value incentives on average produce larger treatment effects.

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