

Regular article

A survey of clinical practices and readiness to adopt evidence-based practices: Dissemination research in an addiction treatment system

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Abstract

Addiction research is challenged to disseminate evidence-based practices into routine clinical settings. The successful adoption of innovation must consider issues of fit, such as the characteristics, readiness, and attitudes of clinicians in the community. We constructed a survey to assess clinical practices and readiness to adopt certain evidence-based practices in addiction treatment programs. The instrument was administered to directors ($n = 21$) and clinicians ($n = 89$) from 24 public addiction treatment programs in New Hampshire (USA). Clinicians are more motivated to adopt some evidence-based practices (twelve-step facilitation, cognitive behavioral therapy, motivational interviewing, relapse prevention therapy) than others (contingency management, behavioral couples therapy, pharmacotherapies). Translational strategies for treatment development and research dissemination are discussed. © 2004 Elsevier Inc. All rights reserved.

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1. Introduction

The research to practice gap is a major concern in addiction treatment delivery (Lamb, Greenlick, & McCarty, 1998; Marinelli-Casey, Domier, & Rawson, 2002; McLellan, 2002). There have been numerous reports outlining this problem, and a priority is to bridge researchers and treatment providers (Brown & Flynn, 2002). Models to transfer technology have been articulated, but we have little empirical tracking of how this happens, and in particular how this works in the field of addiction (Backer, David, & Soucy, 1995; Leshner, 2001; Rawson, McCann, & Huber, 2000; Simpson, 2002).

Several conceptual frameworks point to the importance of developing consensus about the need for change, and for identifying specific targets for what change is to take place (Addiction Technology Transfer Center, 2000).

Consensus efforts must include stakeholders at all levels—clinicians, administrators, funding and regulatory agencies, researchers, and patients (Drake et al., 2001; Torrey et al., 2001). Within the context of managerial science, this has been described as the “innovation-to-organizational fit” (Klein & Sorra, 1996). Considerations of specificity, consensus, and fit, although rational, are not well studied (Rosenheck, 2001).

Within the context of addiction treatment, the split between research and practice may at least be divided along pragmatic, economic, ideological, informational, and training lines (Brown, 1987; Morgenstern, Morgan, McCrady, Keller, & Carroll, 2001; Sorensen & Midkiff, 2000). Three recent dissemination studies are emblematic of this issue. Fals-Stewart and Birchler (2001) examined addiction treatment providers’ attitudes and understanding about an evidence-based practice for both alcohol and drug use disorders—behavioral couples therapy (BCT). In a national survey of 398 providers across the United States, the authors found that less than 5% had ever heard of BCT. In a second study within a single treatment program, an effort was

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undertaken to transfer Contingency Management (CM) to front line clinical staff (Andrzejewski, Kirby, Morral, & Iguchi, 2001). With intensive didactic sessions, individual supervision, clinician rewards for adherence, and graphical feedback, CM was implemented. The study statistically calculated the added benefits of graphical feedback and financial incentives (drawings for cash prizes) to didactics and supervision. Although these two augmentations had significant cumulative adherence benefit, it is difficult to imagine this as the long-term mechanism for maintaining change in ongoing clinical practice.

A third study involved training traditional addiction treatment clinicians in manual-guided cognitive-behavioral coping skills training (CBCST) therapy (Morgenstern et al., 2001). This was a well-conceived and elaborate implementation that involved a pre-training assessment of beliefs about the nature of alcoholism and substance abuse treatment. Extensive didactic training, videotaping of sessions, weekly individual and group supervision, and therapist adherence and competence measures were deployed. The data from this study revealed that counselors could be trained in the cognitive-behavioral approach to achieve adequate levels of adherence and competence, even if contradictory to certain pre-existing ideological aspects of their 12-step model. The training was positively experienced, but as with the CM study, the clinicians reported that the new intervention was at best an adjunct to traditional addiction treatment.

These studies examined what clinicians themselves think about an evidence-based intervention. This process mirrors how we approach a patient with a substance use disorder. We begin with an assessment, and proceed with a plan tailored to motivational stage and other clinical dimensions. Morgenstern et al. (2001) discovered that, to some degree, with great effort, a complex intervention could be implemented in a typical addiction program setting. This study also explored the pre-implementation beliefs of the clinicians in order to anticipate potential barriers. These studies are responsive to the criticism of Addis, Wade, and Hatgis (1999), who noted that most dissemination efforts are hierarchical and unidirectional: from researchers to practitioners. Others have noted the disregard of the clinicians' perspective (Backer, Liberman, & Kuehnel, 1986; Simpson, 2002), and perhaps the clinicians themselves (Ball et al., 2002; Foreman, Bovasso, & Woody, 2001).

There are several recent descriptions of addiction treatment providers from major research programs: the National Institute on Alcohol Abuse and Alcoholism Project Match (Project Match Research Group, 1998), the National Institute on Drug Abuse Clinical Trials Network (CTN; Ball et al., 2002; Carroll et al., 2002; Foreman et al., 2001, 2002), and the Center for Substance Abuse Treatment Cannabis Youth Treatment project (CYT; Godley & White, 2001). Using primarily self-report surveys, these studies describe workforce characteristics, attitudes and experiences with particular interventions, and with cohorts of

community clinicians using therapy manuals in randomized controlled trials. Across these studies, the central findings are the demographic similarities (2/3 female, 40s in age, 5 plus years experience), reported eclectic treatment approaches (not singularly twelve step, and including cognitive behavioral), and receptivity to the approach in which they were being trained. Foreman et al. (2001) surveyed attitudes toward the pharmacological approaches to addiction (e.g. methadone, naltrexone), which overall tend to be least favored. Roman and Johnson (2002) found the use of naltrexone to vary by agency and target population factors. These studies begin to document a differential community readiness to adopt certain evidence-based practices.

The strategy of clinician assessment for the purposes of a change process has also been developed by Lehman, Greener, and Simpson (2002), with the Organizational Readiness for Change (ORC) survey. In a technology transfer model outlined by Simpson (2002), the ORC measures provider perceptions about the organizational environment and staff characteristics from both clinician and agency director perspectives. This instrument involves a comprehensive assessment of resources, climate, flexibility and general readiness to change.

Arndt, Hartman, and Mileham (2001) surveyed clinician attitudes and practices with co-occurring disorders, Carey, Purnine, Maisto, Carey, and Simons (2000) conducted clinician focus groups on a similar topic, and Najavits (2002) reported on clinician attitudes and practices with post-traumatic stress disorder and substance use disorders. These three studies of co-occurring disorders also represent an interest in clinicians, their beliefs and practices.

Thus far, research has examined clinician readiness for specific interventions (CBCST, CM, Motivation Enhancement Therapy (MET)), clinicians participating in randomized controlled trials (Project Match, CTN, and CYT), and response patterns to a more generic readiness to change measure (ORC). No study has assessed community addiction treatment providers on their experiences, beliefs and readiness to adopt a range of evidence-based practices. Insofar as patients are at various stages of readiness, systems and clinicians may likewise vary in motivation (Backer, 1995; Lehman et al., 2002). There may be certain evidence-based practices that clinicians have differential motivation to learn or to implement, either as complements or replacements for their present approaches.

The present study assesses a sample of clinicians and clinical leaders working within an addiction treatment delivery system in a single state. We approached this assessment with specific questions:

1. Who works in the system? What are the demographic, educational, and professional characteristics of clinicians?
2. What preferred practices do clinicians report using now in their work with patients?

3. What is clinician knowledge about, motivation to learn or implement certain evidence-based practices?
4. Are there differences in readiness between the clinical leaders of addiction treatment programs and the front line clinicians who provide direct service? Are there other clinician factors associated with differential readiness?
5. Can assessing items 1, 2, 3, and 4 provide an empirical basis to dissemination strategies for evidence-based practices, and increase their potential for adoption in the community?

2. Materials and methods

2.1. Instrument development

A survey was constructed for the purposes of the present study: *Clinical Practices in Substance Abuse Treatment*. Two versions were created: *Clinician* and *Program Director*. Both versions are in self-report format, with the Clinician version comprising 24 items, and the Program Director version 25 items. Pilot and the present studies found it took between 10 and 15 min to complete.

The instrument consists of: (1) demographic items (gender, age, race and ethnicity); (2) professional items (academic degrees, months clinical experience, months clinical experience in addiction treatment, months with present agency); (3) personal recovery status; and (4) characteristics of their treatment program, including American Society of Addiction Medicine (ASAM, 2001) level of care, and primary treatment approach.

Based upon a review of the literature on evidence-based and recommended best practices in adult addiction assessment and treatment (Carroll, 2000; Leshner, 2001; McCrady, 2000; McGovern & Carroll, 2003; Siqueland & Crits-Christoph, 1999), we developed a list of practices that subjects were asked to rate. In the domain of evidence-based interventions, the following were listed: (1) pharmacological—medications for: (a) withdrawal; (b) relapse prevention; or (c) comorbid psychiatric disorders (O'Brien, 1997); (2) behavioral—therapies including: (a) Motivational Interviewing (MI; Miller & Rollnick, 1991); (b) Cognitive Behavioral Therapy (CBT; Carroll, 1998); (c) Relapse Prevention Therapy (RPT; Daley, 1988; Marlatt & Gordon, 1985); (d) Contingency Management (Budney & Higgins, 2000); (e) Behavioral Marital/Couples Therapy (O'Farrell, 1993); and (f) Twelve Step Facilitation Therapy (TSF; Nowinski, Baker, & Carroll, 1999). In the pharmacological intervention item, we were not asking clinicians if they practiced this themselves (since most are likely not physicians), but rather if this should be part of their treatment program.

These clinical practices were assessed with two questions. First, “how frequently are these clinical practices used in your program” using a five-point rating scale,

from 1 – This RARELY OR NEVER happens (0 – 10% of the time) to 5 – This happens ALMOST ALWAYS OR ALWAYS (over 80% of the time). And, second, “indicate your level of interest in adopting these clinical practices into your program” using a six-point rating scale from: 0 – We are *not familiar with* this practice; 1 – We are *not interested* and do not think this practice would be effective in our program; 2 – We *have considered* this practice but see many pros and cons; 3 – We are leaning in the direction of adopting this practice in our program; 4 – We have *just begun to implement* this practice in our work; to 5 – We *have been using* this practice and efforts are in place to maintain it. This scale was designed as an index of motivation or readiness-to-adopt, using a stage of change model (Prochaska & DiClemente, 1986). This is reflected in precontemplative = 1, contemplative = 2, preparation = 3, action = 4, and maintenance = 5 stages. Option “0” was included based upon the finding of Fals-Stewart and Birchler (2001) that evidence-based practices may be entirely unknown to providers, and therefore motivation per se is a dubious dimension.

2.2. Setting and context

The State of New Hampshire Division on Alcohol and Drug Abuse Prevention and Recovery funds 24 treatment programs. These programs have other revenue streams, but rely primarily on the state via federal block grant mechanisms. In January of 2001, the program directors and/or their delegates began attending a monthly Best Practices Workgroup. The Best Practices Workgroup was organized and facilitated by the NH Division leadership and faculty from the NH-Dartmouth Psychiatric Research Center of Dartmouth Medical School. The format was designed to facilitate a dialogue about clinical system improvement. Because initial discussion relied on impressions and anecdotal information for data, the group agreed that a systematic survey of actual practices would be useful, in order to articulate an objective basis for planning, training and implementation of evidence-based treatments.

2.3. Procedure

With a supporting cover letter from the state agency director, packets containing the *Clinical Practices in Substance Abuse Treatment* surveys were mailed to each agency.

Participation was voluntary, and confidentiality was insured. Individuals and programs were informed that the state agency would not learn of their specific responses, but data would be examined for trends and reported only in aggregate. Program directors were asked to complete their version of the instrument, and distribute the clinician version to their clinical workforce. Surveys were collected in sealed envelopes, and then mailed in a large sealed packet to the research team. Twenty-one program directors from all 24

agencies responded, and their median estimate of clinician response was over 90%.

3. Results

3.1. Demographic and professional description of the study group

Table 1 describes the workforce of the clinical programs. The gender of Program Directors is equally divided, but the clinical staff is 2/3 female. Both Program Directors and Clinicians are primarily white and in their mid-40s in age. With respect to educational background the largest group is that of master's-level clinicians. Of the Clinicians, 43.8% reported being in personal recovery. Both Clinicians and Program Directors had long tenure in the field, and with their current agency.

As seen in Table 2, respondents worked primarily in outpatient (ASAM Level I.), medium intensity residential (Level III.3), and clinically managed residential detoxification programs (Level III.2-D). Primary treatment approach was assessed in an open-ended response format. Clinicians' responses were therefore highly individualized, but were categorized into nine groups, representing treatment approach clusters (Table 2). The approaches reflect a range, with Biopsychosocial, 12-step, and Eclectic-Unspecified most common. Cognitive Behavioral was equivalent across groups (17%).

Table 1
Demographic and professional characteristics of program directors and clinicians

	Directors <i>n</i> = 21 <i>n</i> (%)	Clinicians <i>n</i> = 89 <i>n</i> (%)
Gender		
Male	11 (52.4)	30 (33.7)
Female	10 (47.6)	59 (66.3)
Race/Ethnicity		
White	19 (90.5)	77 (86.5)
White/Native American	0	5 (6.5)
Education		
HS or Equivalent	1 (4.8)	11 (12.5)
Associate	0	11 (12.5)
Bachelor's-level	4 (19.0)	14 (15.9)
LADC	2 (9.5)	11 (12.5)
Master's-level	12 (57.1)	38 (43.2)
RN/CNP	2 (6.9)	3 (6.6)
Doctoral-level/M.D.	0	0
Personal recovery	Not Assessed	39 (43.8)
	M (StdDv)	M(StdDv)
Age in Years	49.63 (8.66)	46.23 (8.91)
Months Clinical Experience	209.10 (117.05)	115.21 (94.73)***
Months Addiction Experience	144.94 (114.61)	93.92 (72.99)
Months with present agency	68.52 (58.66)	50.56 (53.45)

*** *t*-test, *p* < .01.

Table 2
Type of programs and primary treatment approach

	Directors <i>n</i> = 21 <i>n</i> (%)	Clinicians <i>n</i> = 89 <i>n</i> (%)
Type of Programs – ASAM Levels of Care		
I. Outpatient Treatment	17 (81.0)	44 (49.4)
II.1 Intensive Outpatient Program	3 (14.3)	9 (10.1)
III.1 Clinically Managed Low-Intensity Residential	2 (9.5)	7 (7.9)
III.3 Clinically Managed Medium-Intensity Residential	3 (14.3)	21 (23.6)
III.5 Clinically Managed High-Intensity Residential	2 (9.5)	11 (12.4)
III.2-D Clinically Managed Residential Detoxification	9 (42.9)	25 (28.1)
Other	5 (23.8)	11 (12.4)
Primary Treatment Approach*		
12-step	3 (17.6)	26 (29.5)
Cognitive Behavioral	3 (17.6)	15 (17.0)
Biopsychosocial	5 (29.4)	10 (11.4)
Eclectic-unspecified	1 (5.9)	22 (25.0)
Eclectic-12-step/MI	1 (5.9)	4 (4.5)
Eclectic-12-step/CBT	1 (5.9)	5 (5.7)
Eclectic-CBT/MI	0	4 (4.5)
Motivational Interviewing	2 (11.8)	1 (1.1)
Other	1 (5.9)	1 (1.1)

* Fisher's Exact Test, *p* < .05.

3.2. Current reported practices

Program Directors and Clinicians differed in their reported practices of both pharmacological and behavioral

Table 3
Reported current clinical practices

	Directors <i>n</i> = 21 <i>M</i> (<i>SD</i>)	Clinicians <i>n</i> = 89 <i>M</i> (<i>SD</i>)
Evidence-based interventions		
Pharmacological		
Medications for:		
Withdrawal	2.05(1.66)	2.84(1.56)*
Relapse prevention	1.48(1.08)	2.38(1.35)**
Psychiatric disorders	3.29(1.87)	3.79(1.43)
Behavioral		
Motivational Interviewing	3.74(0.89)	4.11(1.07)
Cognitive Behavioral Therapy	3.43(1.21)	4.09(1.10)**
Relapse Prevention Therapy	3.81(1.25)	4.23(0.93)
Contingency Management	1.95(1.20)	2.26(1.46)
Behavioral Couples Therapy	1.43(0.60)	1.61(1.03)
Twelve-Step Facilitation	3.29(1.52)	3.86(1.31)

1 – This RARELY OR NEVER happens. (0–10% of the time).

2 – This happens SOMETIMES BUT NOT OFTEN. (11–25% of the time).

3 – This happens OFTEN, BUT NOT MOST OF THE TIME. (26–50% of the time).

4 – This happens MOST OF THE TIME. (51–80% of the time).

5 – This happens ALMOST ALWAYS OR ALWAYS. (over 80% of the time).

* *t*-test, *p* < .05.

** *t*-test, *p* < .01.

interventions (See Table 3). Clinicians noted significantly greater use of medications for withdrawal ($t = -2.05$, $df = 107$, $p < .05$) and relapse prevention ($t = -2.85$, $df = 106$, $p < .01$), although both groups reported relatively low frequency use of these interventions. The groups also differed in the perceived use of CBT, with Clinicians again reporting higher use ($t = -2.42$, $df = 107$, $p < .01$). Across groups, the most common behavioral interventions were RPT, MI, TSF, and CBT. CM and BCT were least used.

3.3. Readiness to adopt evidence-based practices

Table 4 presents the respondents' degree of readiness or motivation for certain evidence-based practices. Using the rating scale from 1 to 5, an index of readiness can be derived. Optimal readiness likely falls in the Action stage, "We have just begun to implement this practice in our work." A cluster of practices scored in this stage, including TSF, RPT, CBT, MI, and medications for co-occurring psychiatric disorders.

Table 5 portrays the readiness data in a different format, by rank ordering frequency of 0 (no familiarity) and 4 (just begun to use this practice) responses. CM, BCT, and addiction-specific medications are least known, whereas MI, CBT, and RPT interventions are poised for adoption. This rank-ordering statistic verifies the observations of the previous format (readiness means and SDs).

3.4. Potential readiness factors: primary treatment approach and personal recovery status

Since it is widely believed that the 12-step model predominates in typical addiction treatment programs, we sought to compare respondents who endorsed this model as

Table 4
Readiness to adopt specific evidence-based practices

	Directors <i>n</i> = 21 <i>M</i> (<i>SD</i>)	Clinicians <i>n</i> = 89 <i>M</i> (<i>SD</i>)
Evidence-based Interventions		
Pharmacological		
Medications for:		
Withdrawal	2.68(1.70)	3.76(1.54)**
Relapse prevention	2.53(1.70)	3.19(1.58)
Psychiatric disorders	3.95(1.54)	4.49(1.13)
Behavioral		
Motivational Interviewing	4.40(0.94)	4.49(1.13)
Cognitive Behavioral Therapy	4.55(0.83)	4.59(0.85)
Relapse Prevention Therapy	4.42(1.17)	4.60(0.80)
Contingency Management	2.92(1.71)	3.76(1.32)
Behavioral Couples Therapy	2.17(1.71)	2.73(1.47)
Twelve-Step Facilitation	4.42(1.02)	4.61(0.82)

1 – We are not interested and do not think this practice would be effective in our program.

2 – We have considered this practice but see many pros and cons.

3 – We are leaning in the direction of adopting this practice in our program.

4 – We have just begun to implement this practice in our work.

5 – We have been using this practice and efforts are in place to maintain it.

** *t*-test, $p < .01$.

Table 5

Readiness to adopt specific evidence-based practices: Rank ordered by percentage of total sample rating: 0 = "not familiar with"; 4 = "just begun to implement"

	Directors <i>n</i> = 21 (%)	Clinicians <i>n</i> = 89 (%)
0 – I am not familiar with this practice:		
Contingency Management	38	48
Behavioral Couples Therapy	14	37
Medications for relapse	19	15
Medications for withdrawal	9	12
Relapse Prevention Therapy	9	2
Twelve_Step Facilitation	9	3
Medications for psychiatric disorders	5	7
Motivational Interviewing	5	7
Cognitive Behavioral Therapy	5	2
4 – I have just begun to use this practice in my work.		
Motivational Interviewing	38	18
Cognitive Behavioral Therapy	19	13
Relapse Prevention Therapy	9	12
Behavioral Couples Therapy	5	8
Contingency Management	5	9
Twelve_Step Facilitation	0	7
Medications for psychiatric disorders	0	8
Medications for withdrawal	0	2
Medications for relapse	0	2

their primary treatment approach with those who did not (Morgenstern, 2000; Stoffelmayr, Mavis, Sherry, & Chiu, 1999; Wallace, 1996).

In combining both Program Directors and Clinicians who endorsed the 12-step approach only ($n = 29$), significant *t*-test differences were found relative to those who listed other approaches ($n = 76$). The 12-step model was associated with significantly: *less current use* of relapse medications ($t = -2.09$, $df = 101$, $p < .05$), medications for psychiatric disorders ($t = -2.65$, $df = 102$, $p < .01$), MI ($t = -3.21$, $df = 102$, $p < .001$), and CM ($t = -2.05$, $df = 102$, $p < .05$).

The 12-step clinicians also endorsed *more current use* of TSF ($t = 3.65$, $df = 102$, $p < .001$) and *less readiness-to-adopt* relapse medications ($t = -2.07$, $df = 80$, $p < .05$), MI ($t = 3.54$, $df = 96$, $p < .01$), CBT ($t = -2.87$, $df = 99$, $p < .01$) and BCT ($t = 2.96$, $df = 62$, $p < .001$).

We explored this question further by combining responses from clinicians who endorsed the 12-step model *only* with the responses from clinicians who endorsed the 12-step model *in combination* with other approaches (e.g. Eclectic-12-step/MI; $n = 40$); and compared this aggregated group with those clinicians who did not mention 12-step ($n = 65$). Fewer differences were found, though all were consistent with the earlier 12-step *only* group findings: *less current use* of medications for psychiatric disorders ($t = -2.42$, $df = 102$, $p < .01$) and MI ($t = 2.59$, $df = 103$, $p < .01$); *more current use* of TSF ($t = 3.85$, $df = 102$, $p < .001$); and *less readiness-to-adopt* MI ($t = -2.01$, $df = 96$, $p < .05$), CBT ($t = -1.91$, $df = 99$, $p < .05$) and BCT ($t = 1.99$, $df = 62$, $p < .05$).

Clinicians who endorsed CBT, either as a single approach or in combination with other approaches ($n = 28$)—in contrast to all other clinicians ($n = 77$), reported *more current use* of CBT ($t = 3.97$, $df = 102$, $p < .001$) and CM ($t = 2.02$, $df = 102$, $p < .05$). This group also displayed *more readiness-to-adopt* medications to prevent relapse ($t = 2.16$, $df = 80$, $p < .05$) and CBT ($t = 2.66$, $df = 99$, $p < .01$).

We also inquired about personal recovery, comparing the 39 (43.8%) of 89 clinicians who reported affirmatively to this status, with the remaining clinicians. We did not ask about specific type of recovery program (e.g. alcohol, drugs, gambling, Al-Anon). Persons in recovery were less likely to have master's-level degrees ($\chi^2 = 4.94$, $df = 1$, $p < .05$), and were more likely to work in a clinically managed detoxification program ($\chi^2 = 11.82$, $df = 1$, $p < .001$). Finally, they reported more TSF in current use ($t = -2.42$, $df = 86$, $p < .01$) and more readiness to adopt TSF ($t = -3.2$, $df = 82$, $p < .001$).

4. Discussion

4.1. Clinical workforce and current practices

The New Hampshire substance abuse treatment workforce is predominantly female, white and mid-40s in age. Master's-level degrees comprise the modal educational profile. It is a very seasoned group, with an average of 7.75 years addiction treatment experience for clinicians and over 12 years for agency directors. Most have been with their present program for at least four years.

This workforce describes its treatment approach in pluralistic ways, not the singular orientation that one may have anticipated. For Program Directors, the Biopsychosocial approach, and for the Clinicians, the 12-step approach is the most commonly endorsed. However, there is substantial evidence for eclecticism and cognitive behavioral models. As a whole, this sample represents a broader base of conceptual models than may have been forecasted.

Consistent with these findings, both Program Directors and the Clinicians themselves indicated some range in existing practices. As found by Foreman et al. (2001), addiction-specific medications are infrequently utilized, with medications for psychiatric problems more likely in practice. An amalgam of psychosocial approaches including TSF, MI, CBT, and RPT is most common, whereas CM and BCT are the least used evidence-based behavioral practices.

4.2. Readiness to adopt evidence-based practices

Clinicians and Program Directors from this New Hampshire sample reported most readiness to adopt RPT, TSF, CBT, MI, and medications for psychiatric disorders. Mid-range motivation was found for addiction-specific medications for withdrawal and relapse prevention.

In exploring differences among respondents based upon treatment approach, we located some expected differences. Persons endorsing a 12-step model perceived less interest in addiction medications, and less current use and motivation for behavioral treatment approaches other than TSF. Many of these effects were sustained when clustering subjects into a more broadly defined 12-step model group. Likewise, clinicians labeling themselves as cognitive behavioral were more likely to use and report readiness to adopt CBT. The cognitive behavioral group also displayed more openness to addiction medications.

Although these differences were statistically significant, the mean scores reflected generally comparable interest in similar evidence-based practices, regardless of orientation: CBT, TSF, MI, and RPT. Therefore, the most likely evidence-based practices to be welcomed and implemented in communities appear to be MI, TSF, CBT, and RPT. Indeed, as Morgenstern and McCrady (1992) reported, differences in ideology may be irrelevant if the mechanisms of change and treatment share enough in common. Largely consistent with other reports (Morgenstern, 2000; Stoffelmayr et al., 1999), these data also suggest many convergent opportunities for dissemination across clinician ideological and personal recovery status lines.

However, certain significant differences persist. This underscores the need to consider traditional 12-step clinicians as complex, flexible and heterogeneous, neither predictable nor closed-minded to other behavioral approaches. Acceptance of addiction pharmacotherapy seems more complex.

Evidence-based practice developers and researchers must clearly demonstrate the relevance of their intervention to frontline clinicians. Even if the stage II efficacy and stage III effectiveness of a particular treatment has been established (Onken, Blaine, & Battjest, 1997), community interest may be more determined by ease of implementation, fit with what clinicians believe and are already doing, demonstrated cost-effectiveness, and in response to clinician-expressed need (i.e. market driven). The barriers to specific practices require more study, and perhaps must in some way be integrated with the favored approaches for translation.

4.3. Differential characteristics and readiness between clinical leaders and front line clinicians

On most variables, there were no differences between program directors and clinicians. In background characteristics, directors were more likely to be male, master's level, or nursing professionals, and have more clinical experience. The clinicians were in fact a highly experienced group with an average of over 9 years clinical experience, 7.8 years of which have been in the addiction treatment field. The directors are more likely to declare a Biopsychosocial approach, in contrast to the 12-step approach clinicians endorse.

On both reported clinical practices and readiness to adopt specific evidence-based practices, the groups were largely

similar. The clinicians did report greater current use of pharmacological interventions and cognitive behavioral therapy. In that we anticipated a greater positive response bias from agency directors, these differences may reflect an increased familiarity with agency practices on the part of clinicians.

A confounding aspect of the study design is the nesting of directors and clinicians within programs. We analyzed these data with subjects collapsed across 21 programs into two groups, and therefore may have lost differential program effects. The size of most programs (most have only 2 or 3 clinical staff) precludes appropriate statistical analyses with program as an independent variable.

4.4. Study limitations and future research

The findings of this study are also limited by the potential biases of self-report. There are demand characteristics inherent in the data collection procedure, given the connection with a funding agency, combined with the usual positive response bias. This study is also limited by reliance on the self-reported practices of clinicians. There was no direct observation of actual practices, which could be very different from reported practices (Carroll et al., 2002). Adherence or fidelity measures would be methods to advance this line of inquiry (Drake et al., 2001). The present methodology and analyses also assumes homogeneity across the settings, in levels of care, populations served, and in dual-diagnosis treatment capability. In reality, programs certainly differed on these dimensions. In this paper we present a measure of understanding of an entire state system. In customized feedback, each program can use these data to identify likely practices for successful adoption (e.g. cognitive behavioral therapy), or to address barriers to clinician acceptability through training, staffing or policy changes (e.g. medications).

Finally, this study is based on the public system of care within one state, and therefore may not be generalizable to other systems or states.

The next stage of research will involve comparison of self-reported practices with assessments made by trained independent observation. Further refinements to the instrument itself are also necessary for instance, offering brief definitions of the specified evidence-based practices, adding other evidence-based practices, and more detailed questions about training and clinical supervision. Because the stage of change model is based upon an underlying assumption of a “problem” that needs to be addressed, some assessment of clinician perception of problem or need may also be integrated within the readiness measure.

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