

Addictive Disorders in Context: Principles and Puzzles of Effective Treatment and Recovery

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To consider key issues in understanding effective treatment and recovery, the author reviews selected principles and unresolved puzzles about the context of addictive disorders and the structure, process, and outcome of treatment. The principles focus on the process of problem resolution, the duration and continuity of care, treatment provided by specialist versus nonspecialist providers, alliance and the goals and structure of treatment, characteristics of effective interventions, and the outcome of treatment versus remaining untreated. The unresolved puzzles involve how to conceptualize service episodes and treatment careers, connections between the theory and process of treatment, effective patient–treatment matching strategies, integration of treatment and self-help, and the development of unified models to encompass life context factors and treatment within a common framework.

There has been an expanding cornucopia of research on addictive behaviors in the past 30 years. We have formulated conceptual models, measured key constructs, examined salient theoretical issues, and made substantial progress in understanding the ebb and flow of addictive disorders. An integrated biopsychosocial orientation and a theoretical paradigm of evaluation research have supplanted earlier adherence to an oversimplified biomedical model and reliance on a restrictive methodological approach to treatment evaluation. And yet, in an ironic way, more remains to be done than before, in part because of our increased knowledge and in part because of new clinical perspectives and treatment procedures and the evolving social context in which we ply our trade. Here, I set out seven principles that exemplify advances in our effort to understand the processes involved in effective treatment and recovery. I then describe some unresolved puzzles and important questions for future research.

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Principles: What We Know or Think We Know

The first two principles of effective treatment and recovery address the context of addictive disorders, the next two principles focus on the structure of treatment, and the following two principles consider the process and content of treatment. The final principle addresses treatment outcome.

Principle 1: Treated or Untreated, an Addiction Is Not an Island Unto Itself

People with addictive disorders exist in a complex web of social forces, not on an island unto themselves, free of social context. Formal treatment can be a compelling force for change, but it typically has only an ephemeral influence. In contrast, relatively stable factors in people's lives, such as informal help and ongoing social resources, tend to play a more enduring role. Moreover, a recovery that is sustained after treatment is not due simply to treatment; it is nurtured by the same sets of factors that maintain the resolution of problems without treatment (Biernacki, 1986; Moos, Finney, & Cronkite, 1990; Vaillant, 1995).

This contextual perspective highlights the need for a fundamental shift in thinking about intervention programs and evaluating their effects. Many of the hard-won gains of intervention programs fade away over time. This is precisely as expected on the basis of our knowledge about environmental impact and the diversity of contexts to which individuals are exposed. An intervention program is but one of multiple life contexts. Other powerful environments also shape mood and behavior; ongoing environmental factors can augment or nullify the short-term influence of an intervention.

The fact that the evolving conditions of life play an essential role in the process of remission from addictive disorders is a hopeful sign. It implies that these disorders need not become chronic, that individuals who are able to establish and maintain relatively positive social contexts are likely to recover, and that treatment directed toward improving individuals' life circumstances is likely to be helpful.

Principle 2: Common Dynamics Underlie the Process of Problem Resolution That Occurs in Formal Treatment, Informal Care, and “Natural” Recovery

Individuals trying to resolve substance abuse problems usually begin by using one or more sources of informal help, such as a family member or friend, a physician or member of the clergy, or Alcoholics Anonymous (AA) or another self-help group. If such attempts fail repeatedly, some individuals enter formal treatment. On average, these individuals have more severe problems and more difficult life contexts, and are more impaired than individuals who resolve problems on their own or with informal help; outside help may be especially needed when an individual has few personal or social resources on which to base a recovery (Finney & Moos, 1995).

Nevertheless, it may not be important or fruitful to distinguish between problem resolution that occurs with or without treatment. There is no compelling conceptual reason to distinguish between the influence of an AA sponsor, a spouse or partner, and a relative or friend, versus that of a counselor or psychotherapist on an addicted individual. The cognitive and social processes that underlie the resolution of addictive problems are common to formal treatment and informal help, and the other dynamics of change are likely to be similar, regardless of the context in which they occur.

In addition, any distinction between life context and informal help or formal treatment is arbitrary: When individuals enter an intervention program it becomes part of their life context. Ongoing life settings and intervention programs are comparable in that both establish a context for individual development or dysfunction, both involve person–environment matching processes, and both may be altered by the participants they seek to alter. Moreover, both are environmental conditions that can be characterized by common social processes, as embodied by the quality of interpersonal relationships, the goals, and the structure of the setting (Moos, 2002).

Principle 3: The Duration and Continuity of Care Are More Closely Related to Treatment Outcome Than Is the Amount or Intensity of Care

Although patients with substance use disorders who receive more outpatient mental health care tend to have better short-term outcomes (Brochu, Landry, Bergeron, & Chiochio, 1997; Fiorentine & Anglin, 1996; Jerrell & Ridgely, 1999), there is growing evidence that the duration of care is more important than the amount of care. In a sample of more than 20,000 patients who participated in a nationwide program to monitor the quality of care in the Department of Veterans Affairs, Moos, Finney, Federman, and Suchinsky (2000) found that patients who had a longer episode of mental health care had better risk-adjusted substance use, family, and legal outcomes than did those who had a shorter episode. These findings held after the intensity of care was controlled. Drug-dependent patients with longer episodes of residential or outpatient care experience better substance use and crime-related outcomes than do patients with shorter episodes (Crits-Christoph & Siqueland, 1996; Prendergast, Podus, & Chang, 2000; Simpson, Joe, & Brown, 1997).

In other studies, patients who obtained outpatient mental health care over a longer interval had better 1-year substance use out-

comes (Ouimette, Moos, & Finney, 1998) and were more likely to be remitted at 2 years (Ritsher, Finney, & Moos, 2002) than were patients who had outpatient care for a shorter interval. The findings were comparable among patients from community-based residential settings; moreover, after the duration of outpatient mental health care was controlled, the amount of care did not independently predict 1-year outcomes (Moos, Schaefer, Andrassy, & Moos, 2001).

The finding that the duration of treatment for alcohol and drug use disorders is more closely related to outcome than is the sheer amount of treatment is consistent with the fact that the enduring aspects of individuals' life contexts are associated with the recurrent course of remission and relapse. Thus, low-intensity, telephone-based case monitoring delivered by paraprofessional personnel may be an effective long-term treatment strategy for many patients (Stout, Rubin, Zwick, Zywiak, & Bellino, 1999). If taken seriously, these findings could impel an additional shift in resources from intensive to extensive care (Humphreys & Tucker, 2002).

Principle 4: Patients Treated by Substance Abuse or Mental Health Specialists Experience Better Outcomes Than Do Patients Treated by Primary Care or Nonspecialty Providers

There is considerable controversy about whether individuals with substance use disorders need to receive specialty substance abuse or mental health care, or whether brief treatment by non-specialty providers is sufficient. Studies of interventions in primary care and general medical clinics show that advice and brief counseling are effective in reducing alcohol consumption (Fleming et al., 2002; Moyer, Finney, Swearingen, & Vergun, 2002). However, these studies have focused mainly on problem drinkers rather than on alcohol dependent individuals.

Moos et al. (2000) examined the association between the type of provider and treatment outcomes in the Veterans Affairs quality monitoring program. Among more than 20,000 patients with substance use disorders, 25% obtained little or no outpatient substance abuse or psychiatric care. Compared with patients treated by primary care or other nonspecialty providers, patients who received substance abuse or psychiatric specialty care had longer and more comprehensive care and better risk-adjusted 1-year outcomes. They were more likely to be abstinent and free of substance use problems, less likely to have psychiatric symptoms, and more likely to be employed (Moos et al., 2000).

In conjunction with prior studies, these findings show that patients with substance use disorders who obtain specialty care receive more services and more appropriate care, are more satisfied with their care, and have better treatment outcomes than do comparable patients seen only in the general medical sector (Etner, Hermann, & Tang, 1999; Mechanic, 1990; Rogers, Wells, Meredith, Sturm, & Burnam, 1993). Such specialty care can be provided by addictions counselors, or by social workers and nurses trained as addiction counselors, rather than by doctoral-level staff. Accordingly, health care policymakers need to re-evaluate the desirability of shifting these patients' care from specialty to non-specialty providers.

Principle 5: Treatment Settings and Counselors Who Establish a Therapeutic Alliance, Are Oriented Toward Personal Growth Goals, and Are Moderately Structured Tend to Promote Positive Outcomes

Common aspects of treatment may have as much or more of an impact on clients than does the specific content or type of treatment (Hubble, Duncan, & Miller, 1999). In general, counselors who are more empathic and able to establish a therapeutic alliance enhance their clients' involvement in treatment and treatment outcomes (Norcross, in press). Clients of counselors who are confrontational or use confrontational interventions consistently do poorly, probably because criticism and lack of support elicit resistance and withdrawal (Miller & Wilbourne, 2002). Similarly, supportive group and residential treatment settings tend to enhance patients' participation in treatment, strengthen their self-confidence, and contribute to a reduction in symptoms and substance use (Moos, 1997).

A positive treatment alliance and a cohesive treatment setting may be helpful and perhaps even necessary conditions for change, but they are not sufficient conditions. To motivate clients to improve, counselors also need to set specific performance goals and to maintain an appropriate level of structure. Similarly, group and residential treatment settings that emphasize self-direction and work and social skills, and are clear and well organized, tend to engage clients in treatment, to reduce clients' symptoms, and to enhance clients' social functioning and community adaptation (Moos, 1997).

From a broader perspective, clients help to create the context of treatment, and counselors direct clients toward specific goals. As a case in point, Carl Rogers believed that counselors should offer noncontingent empathy and warmth in therapy. Nonetheless, Rogers responded with varying levels of empathy and warmth that were contingent on the content of clients' problems (Truax, 1966). Cohesion and support are not just interpersonal constructs but always involve an orientation toward specific goals and structure. Accordingly, the finding that a positive treatment alliance predicts good treatment outcome may be due in part to a relatively structured focus on clients' real life social contexts and coping skills. When a positive alliance is not associated with good outcome, it may be due to a lack of goal direction and clarity in treatment.

Principle 6: The Common Component of Effective Psychosocial Interventions Is the Focus on Helping Clients Shape and Adapt to Their Life Circumstances

According to recent reviews, the most effective psychosocial modalities for the treatment of addictive disorders are cognitive-behavioral interventions, social skills training, a community reinforcement approach, motivational interviewing, behavioral contracting, stress management and relapse prevention training, and behavioral marital therapy (Crits-Christoph & Siqueland, 1996; Finney & Monahan, 1996; Miller & Wilbourne, 2002). These types of interventions focus primarily on enhancing clients' competence in coping with daily life, developing clients' social skills, improving the match between clients' abilities and environmental demands, and altering reinforcement patterns in clients' community settings.

There is considerable evidence for the effectiveness of 12-step treatment (Ouimette, Finney, & Moos, 1997; Project MATCH Research Group, 1997, 1998) and therapeutic communities (De Leon, 1997); these approaches also emphasize patients' community living skills and adaptation to ongoing life contexts. Moreover, in standard substance abuse treatment programs, services that are focused on patients' community contexts and coping, such as life skills training and enhanced social services, are associated with better outcomes (Connors & Walitzer, 2001; McLellan et al., 1998).

Consistent with the conclusion Luborsky, Singer, and Luborsky (1975) reached more than 25 years ago, treatment programs with diverse ideologies are effective in reducing substance use and improving psychosocial outcomes. These effective programs engage clients in a common focus, which is to help them understand, adapt to, and alter their life circumstances.

Principle 7: Among Individuals Who Recognize a Problem and Are Willing or Motivated to Receive Help, Formal Intervention or Treatment Leads to Better Outcomes Than Does Remaining Untreated

Although clients in treatment seem to benefit, one nagging question is whether individuals who obtain treatment experience better outcomes than those who do not. In this vein, a recurring criticism of Project MATCH is that it lacked an untreated comparison group, and thus, although patients generally had good outcomes, they might have had comparable outcomes had they remained untreated.

A growing number of studies have addressed this issue. Among individuals with less severe drinking problems, those who receive a brief intervention have better alcohol-related outcomes than do nonintervention comparison groups (Moyer et al., 2002). In a study of individuals who sought help for their alcohol use disorders and had never received formal treatment, Timko, Moos, Finney, and Lesar (2000) found that individuals who entered formal treatment relatively quickly had better 1-year and 8-year alcohol-related outcomes than did individuals who obtained no help. Individuals who stayed in treatment longer had the best outcomes (Moos & Moos, in press).

With respect to individuals with more severe alcohol use disorders, Emrick (1975) concluded that entry into formal treatment raised the likelihood of improved drinking outcomes. More recent evidence shows that persons who have been in treatment are more likely to be abstinent (Armor & Meshkoff, 1983; Dawson, 1996) and experience less distress (Bovasso, Eaton, & Armenian, 1999) at follow-up than do untreated individuals. Similarly, compared with no treatment, treatment reduces drug use and criminal behavior and improves social functioning among drug-dependent individuals (Anglin, Speckart, Booth, & Ryan, 1989; McLellan et al., 1996).

These findings are not an artifact of self-selection, because individuals who enter treatment typically have more severe substance abuse problems than do untreated individuals, but they have better long-term outcomes. In addition, recovery without treatment is less common among individuals with more severe alcohol problems (Cunningham, 1999). Moreover, individuals who follow a course of stable remission can attain relatively normal functioning and life contexts (Finney, Moos, & Timko, 1999).

Unresolved Puzzles: What We Need to Know

I have set out seven principles about effective treatment and recovery. Although substantial progress has been made, a number of questions remain to be resolved. After commenting on the diversity of the samples of individuals on which the above principles are based, I focus on three puzzles about the structure and process of treatment. I then consider two puzzles about the content of treatment and one about treatment outcome. The final puzzle addresses the context of addictive disorders.

Several studies of substance abuse treatment have involved nationwide samples of treatment programs and patients who vary widely in demographic and diagnostic characteristics and in the severity and chronicity of their disorder. More broadly, in a review of 700 alcohol treatment outcome studies, Swearingen, Moyer, and Finney (in press) noted that more than 15% of the patients in these studies were women and about 20% were Black, almost 50% were married, about 60% were high school graduates and 15% were college graduates, about 60% were employed, and almost half had not been in treatment before.

Individuals included in studies of brief interventions, and those who are untreated or are early in their help-seeking career, also span a broad range of demographic and substance use characteristics. Thus, the above principles should apply to a diverse population of substance-using individuals. Nevertheless, there are likely to be exceptional groups of individuals characterized by distinctive motivations, life contexts, and coping skills. Addiction researchers should continue to search for ethnic, social, and genetic subgroups in which new principles or alternative processes of recovery and relapse may apply.

Puzzle 1: How Can We Best Conceptualize and Examine Service Episodes and Treatment Careers?

Comparative studies of treatment outcome typically consider only one delimited segment of care, such as a specific course of residential or outpatient treatment. In reality, however, almost all clients obtain packages of services, or episodes of care, that encompass more than one setting, modality, and orientation.

In an attempt to focus on this issue, Moos et al. (2000) specified an episode of mental health care for a sample of almost 21,000 patients with substance use disorders (Moos et al., 2000). On average, these episodes lasted about 9 months, much longer than the time span of treatment examined in most outcome studies. Many of these patients had inpatient/residential care and outpatient care, and the majority had both substance abuse and psychiatric care. These patients also had a mixture of individual, group, and day treatment, and most probably experienced diverse orientations of treatment.

The fact that patients with substance use disorders typically receive a diverse array of services over an extended interval raises several questions. For clients who use services intermittently, when does a new episode begin, and when does it end? Given the presumed match between patients' acuity and the allocation of services, how can one validly compare the outcomes of widely varying types of episodes? How can one evaluate the effects of specific treatment modalities in the context of episodes in which patients are exposed to more than one modality of care?

Over time, multiple service episodes merge and become treatment careers (Hser, Anglin, Grella, Longshore, & Prendergast,

1997). How do initial treatment experiences affect the likelihood of seeking subsequent treatment and the progression of different types of episodes? Do individuals who seek treatment early in the course of the disorder eventually need less treatment than individuals who delay seeking treatment? Are longer treatment careers associated with an increased duration of subsequent treatment and better outcomes, as Hser and colleagues (Hser, Grella, Chou, & Anglin, 1998) suggested? How can we identify the family, peer, and community forces that shape the characteristics of service episodes and treatment careers?

Puzzle 2: What Is the Role of the Health Care Work Environment in Treatment Process and Outcome and in Enhancing Clinicians' Morale and Openness to Innovations in Treatment Delivery?

The health care work environment is an important and relatively neglected component of the substance abuse treatment system. We know that an involving and cohesive workplace that emphasizes task orientation and clarity is associated with provider satisfaction and performance in health care settings in general (Moos, 1994b). However, very little is known about the connections between the quality of the workplace, staff members' beliefs about addictive disorders, and the quality of treatment for patients with substance use disorders.

In a study that addressed these issues, Moos and Moos (1998) found that staff members in supportive and goal-directed work environments were more likely to espouse disease model beliefs and a 12-step orientation toward substance abuse treatment. These work environments were associated with more supportive and goal-directed treatment settings. Patients in these settings received more services, were more involved in self-help groups, were more satisfied with treatment, improved more during treatment, and were more likely to participate in continuing outpatient care (Moos & Moos, 1998).

These findings raise intriguing questions. Do organizational factors, such as team structure and challenging leadership, enhance staff morale and therapeutic behavior because they promote a cohesive and goal-directed workplace (Schulz, Greenley, & Brown, 1995)? More specifically, does a 12-step philosophy provide a more coherent and sustainable belief system, and thus more goal congruence and clarity, than does a cognitive-behavioral orientation, which is based more on scientific evidence and technical expertise? Is it true that an ideology based only on empirical support cannot sustain service providers (Cherniss & Krantz, 1983)?

Many substance abuse treatment providers experience conditions that impede innovation and the adoption of new clinical practices, such as high work pressure and ambiguity, conflicts with other providers, and demoralization. How can organizational development programs improve the quality of substance abuse staff teams, the work setting, and ultimately the quality of treatment? Is it best to introduce total quality improvement processes or to use a simpler assessment and feedback method that empowers providers to identify and alter problematic aspects of the work milieu (Berwick, Godfrey, & Roessner, 1991; Shortell et al., 1995)?

Puzzle 3: How Can We Better Understand the Connections Among the Theory, Process, and Outcome of Treatment?

Although studies of the comparative effectiveness of substance abuse treatment are commonplace, relatively few have examined the processes underlying the effects of different treatment modalities. Comparative evaluations rarely provide information about how treatment works, for whom treatment works or does not work, or how treatment can work better or be allocated more effectively.

In an attempt to address this issue, Finney, Noyes, Coutts, and Moos (1998) found that patients in 12-step programs improved more than did patients in cognitive-behavioral programs on proximal outcomes assumed to be specific to 12-step treatment, such as attending 12-step meetings and taking the steps. In contrast, patients in cognitive-behavioral programs showed no greater change than did 12-step patients on proximal outcomes assumed to underlie cognitive-behavioral treatment, such as self-efficacy and coping skills (Finney, Noyes, Coutts, & Moos, 1998). The associations between cognitive-behavioral proximal outcomes and 1-year outcomes were as strong for patients from 12-step programs as for patients from cognitive-behavioral programs (Finney, Moos, & Humphreys, 1999).

Similarly, cognitive-behavioral treatment in Project MATCH did not enhance clients' social skills more than did 12-step facilitation treatment (Longabaugh, Wirtz, & Rice, 2001). Thus, the proximal outcomes thought to be specific to cognitive-behavioral treatment may be a function of common conditions in both 12-step and cognitive-behavioral treatment. More broadly, we do not know why cognitive-behavioral treatment is effective, because there is relatively little support for the idea that the treatment works by enhancing clients' coping skills (Morgenstern & Longabaugh, 2000).

These findings raise quite basic questions. Do the theories underlying 12-step, cognitive-behavioral, and other treatments overemphasize the content as compared with the common aspects of treatment, such as the alliance, goals, and duration of care? Can we develop theories about these common aspects, such as how a specific combination of conditions enhances clients' engagement in treatment and self-efficacy? Can "logic models" that specify providers' beliefs about how treatment works (Conrad, Matters, Hanrahan, & Luchins, 1999) guide the development of better theories and the identification of proximal outcomes that are more predictive of long-term change?

Puzzle 4: How Can We Identify Effective Patient-Treatment Matching Strategies?

Many clinicians believe that patient-treatment matching can enhance treatment outcomes, but the key variables involved have eluded us. The majority of matching studies has tried to identify stable patient characteristics that are associated with differential outcomes of varying models or theories of treatment. Despite an extensive search, however, there is little or no evidence that patients' personality characteristics interact with models of treatment to affect outcomes (Longabaugh & Wirtz, 2001; Mattson et al., 1994).

A promising alternative involves matching clients' cognitive and psychosocial functioning with common aspects of treatment,

such as the level of support, performance expectations, and structure. This approach focuses more on clients' changing characteristics and the common conditions in which treatment is delivered than on stable personal factors and the content of treatment. Functionally able clients tend to respond well to self-directed treatment that involves high performance expectations and relatively little structure, whereas impaired clients need more support and structure. As clients' cognitive and psychosocial skills improve, they should be able to adapt to a more demanding and self-directed setting (Litt, Babor, DelBoca, Kadden, & Cooney, 1992; Timko, Moos, & Finney, 2000).

Another matching approach is to target services more precisely to address patients' specific problems. In recent tests of this model, clients in matched care conditions, who received counseling sessions focused on target problem areas, stayed in treatment longer and had better 6-month outcomes than usual care patients did (Hser, Polinsky, Maglione, & Anglin, 1999; McLellan et al., 1997). Even with such matching, however, the question remains of how demanding and structured counseling should be for different patients.

One way to pursue problem-service matching is to encompass patients' life contexts. In this vein, Zywiak, Longabaugh, and Wirtz (2002) found that Project MATCH outpatients with networks supportive of drinking had better 3-year outcomes in 12-step treatment than in motivational enhancement treatment, apparently because they were more likely to attend AA and develop substitute networks. I mentioned earlier that treatments that focus on patients' life contexts tend to be effective; accordingly, targeting services more specifically to address life context problems should enhance treatment outcome.

Puzzle 5: How Should We Organize and Sequence Treatment for Patients With Dual Disorders, Such as Patients With Substance Use Disorders and Major Depression or Posttraumatic Stress Disorder?

Between 30% and 60% of individuals who have substance use disorders also have one or more psychiatric disorders. These dually diagnosed individuals have more severe medical, financial, housing, and legal problems; seek treatment services more often; and, on average, have poorer overall outcomes than do individuals with only substance use disorders (Regier et al., 1990; Rosenthal & Westreich, 1999). There are treatment guidelines for patients with substance use disorders (American Psychiatric Association, 1995) and for patients with prevalent psychiatric disorders, such as depression and posttraumatic stress disorder (American Psychiatric Association, 1993; Foa, Keane, & Friedman, 2000), but much less is known about effective treatment for dually diagnosed patients.

Clinicians have espoused three models of dual diagnosis care: (a) serial treatment, in which one disorder is treated after the other; (b) parallel treatment, in which the two disorders are treated at the same time by different providers; and (c) integrated treatment, in which coordinated care is provided for both disorders. Integrated models that combine substance abuse and psychiatric care tailored for clients with comorbid disorders appear to be most effective (Barrowclough et al., 2001; Drake, Mercer-McFadden, Mueser, McHugo, & Bond, 1998; Herman et al., 2000). In this regard, Moggi, Ouimette, Finney, and Moos (1999) found that dually

diagnosed patients treated in substance abuse programs with a stronger dual diagnosis orientation (as defined by high support and structure; enhanced services for housing, legal, and family problems; and a focus on psychotropic medication) had better 1-year symptom and employment outcomes (Moggi, Ouimette, Finney, & Moos, 1999).

These and related findings are useful, but more specific information is needed about best practices in this area. What are the critical components of dual-diagnosis programs and, given their complexity and cost, how can they be implemented in an integrated system of care? How can we shape therapeutic communities that are structured enough to control impulsive behavior and yet permissive enough to encourage self-direction? Can a single clinician effectively manage both disorders? If not, how can we best coordinate substance abuse counseling, supportive group psychotherapy, medical management, and community-based case management?

Puzzle 6: How Can We Integrate Formal Substance Abuse Treatment and Patients' Involvement and Participation in Self-Help Groups?

When individuals with substance use disorders participate in recovery-focused self-help groups, they experience better substance use and social functioning outcomes. These findings hold for individuals who receive formal treatment (Humphreys & Moos, 2001; Morgenstern, Labouvie, McCrady, Kahler, & Frey, 1997; Tonigan, Toscova, & Miller, 1996) as well as for those who do not (Humphreys & Moos, 1996; Timko, Moos, Finney, & Lesar, 2000). Moreover, the positive outcomes of 12-step facilitation treatment, as well as those of other treatment modalities, may reflect how much they encourage involvement in self-help groups during the follow-up period (Humphreys, Huebsch, Finney, & Moos, 1999; Tonigan, Connors, & Miller, in press).

Given these findings, a number of questions need to be addressed. Does a consistent orientation in treatment and self-help amplify the effects of each of these modalities? In this regard, patients in 12-step facilitation treatment may benefit more from participation in AA than do patients in cognitive-behavioral treatment (Humphreys, Huebsch, et al., 1999), whereas participation in AA may not add to the benefit of behavioral treatment (McCrady, Epstein, & Hirsch, 1999). When there is no expected booster effect of "orientation congruence," how can one reconcile this finding with the idea that congruent settings should enhance each other's impact?

A related set of questions involves how self-help groups work. Potential mechanisms include the maintenance of motivation and self-efficacy to avoid drinking, enhanced friendship networks, and reliance on approach coping (Connors, Tonigan, & Miller, 2001; Humphreys, Mankowski, Moos, & Finney, 1999; Morgenstern et al., 1997). An intriguing question is whether the benefits of self-help groups wane as quickly as do the benefits of treatment when individuals stop going to meetings. In fact, because self-help groups do not explicitly teach coping skills, as typically occurs in treatment, does their influence taper off more quickly than does the influence of treatment?

Other important questions abound: Is the intensity of participation in self-help groups associated with better outcomes, as suggested by the principle of "90 meetings in 90 days," or is the

duration of participation more important, as seems to be the case with formal treatment? Are the common factors in AA groups, such as the strength of one's relationship with a sponsor, more essential than participation in the group itself? How often do cohesive and powerful groups lead to progressive conformity and subservience or to isolation and extrusion of individuals with incongruent beliefs?

Puzzle 7: How Can We Develop More Unified Models of the Role of Life Context Factors, and Formal and Informal Care, in the Recovery Process?

To grasp the essence of the process of recovery, we need to place ongoing life context factors, formal treatment, and self-help groups into a unified model and understand these apparently disparate contexts in terms of their underlying dimensions and dynamics. As noted earlier, these diverse settings can be conceptualized in terms of three domains: (a) quality of interpersonal relationships, (b) personal growth goals, and (c) level of structure. Moreover, there are consistent linkages between these domains and outcomes. Thus, when intervention programs, self-help groups, or families are cohesive and expressive, individuals tend to experience high morale and to feel bonded to the setting. When intervention programs, self-help groups, or families emphasize independence and task orientation, individuals tend to become more assertive and self-confident (Moos, 1994a, 2002).

Because the influence of any one of these domains depends on the context in which it is embedded, it is important to recognize their interconnections. With respect to treatment, researchers tend to focus on alliance (a relationship dimension), or on skills development (a personal growth goal), or on directedness (an index of structure), when they know that the power of any one of these characteristics depends on the relative emphasis on the others. In the context of the family, cohesion in the service of independence promotes initiative and self-confidence; cohesion in the service of conformity spawns passivity and enmeshment (Moos & Moos, 1994).

At present, we have only a dim vision of how the influence of treatment or self-help groups varies depending on clients' life contexts. Unmarried patients may benefit more from community reinforcement because it provides a compensatory source of support for individuals with few social resources (Azrin, Sisson, Meyers, & Godley, 1982). Patients with high network support for drinking may benefit more from 12-step facilitation treatment because it enhances participation in AA and provides a new abstinence-oriented support system (Zywiak et al., 2002). We need to learn more about how formal treatment and self-help groups substitute for, amplify, or diminish the influence of other contexts.

How does treatment or a self-help group compensate for a lack of family and friend resources, counteract the influence of detrimental peers, or amplify the power of a supportive partner? How do enhanced services, such as housing assistance, parenting classes, and employment counseling, affect clients' life context and substance use outcomes? Most fundamentally, how can we maximize positive carryover from substance abuse intervention programs to clients' ongoing life contexts?

Evidence-Based Practices and Paradigm Transformation

An underlying issue in our research endeavor involves the scientific paradigm we use to accrue new knowledge and how we apply that knowledge. In this respect, clinicians and researchers alike face a fundamental question: Will the movement toward empirically supported treatments and practice guidelines ultimately transform our most cherished assumptions about how treatment should be delivered and evaluated?

The newest panacea in health care involves empirically supported treatments, evidence-based guidelines, and accountability systems to enhance the process and outcome of care. Total quality improvement enthusiasts initially expected a relatively painless process whereby expert consensus panels formulate guidelines, professional organizations and health care systems disseminate them, and providers adopt new clinical practices in light of empirical evidence about their efficacy. However, a storm of resistance and two main sets of barriers have arisen: (a) lack of an adequate evidence base and (b) providers' collegially validated concerns about whether current guidelines have value in clinical practice (Chambless & Ollendick, 2001; Norcross, 1999).

One set of issues is that the findings of tightly controlled efficacy trials may not generalize to real-life clinical settings with more heterogeneous patient populations and less well-trained clinicians (Nathan, 1998). In this vein, the exclusion criteria used in efficacy studies result in an underrepresentation of African American and low-income individuals and of individuals with severe substance abuse and psychiatric problems (Humphreys & Weisner, 2000). Additional issues involve the lack of standard comparative information on patients and of a standard condition against which alternative treatments can be compared (Donovan, 1999; Finney, 2000). More broadly, we should recognize that efficacy trials provide only one specific context for observation and are not necessarily the royal road to a divine blueprint of revealed truth.

Providers' concerns about practice guidelines include the possibility that clients' needs may be subjugated to technique-focused treatment, that fidelity may take priority over flexibility, and that the training and intensity of care needed to deliver evidence-based treatments reduce their feasibility (Addis, Wade, & Hatgis, 1999). These concerns raise researchable issues: Does the application of practice guidelines compromise treatment alliance and innovation and, if so, how can these effects be counteracted? Can we develop a set of "acceptable deviations" from apparent best practices by allowing clinicians to espouse a rationale for following alternative standards of care for specific patients? More generally, how can clinicians and researchers collaborate to develop an evidence-based approach to evaluating the dissemination, implementation, maintenance, and outcomes of evidence-based clinical practices (Corrigan, Steiner, McCracken, Blaser, & Barr, 2001; Rosenheck, 2001)?

Another key question is whether an emphasis on evidence-based practice can be integrated with the re-emerging humanitarian, recovery-based model that values clients' personal experiences, responsibility, choice, and empowerment (Frese, Stanley, Kress, & Vogel-Scibilia, 2001). Given the advocacy principle of "nothing about us without us," what are providers to do when their clients prefer an emphasis on personal growth and quality of life over an evidence-based symptom reduction approach? As clients improve, how can we provide them with more autonomy and choice about

the type of treatment and services they receive? Finally, how can we implement evidence-based practices and yet fully incorporate clients' preferences into clinical decision making?

Quality improvement efforts that rely on evidence-based practice guidelines enable us to broaden the prevailing paradigm about how to advance substance abuse and psychiatric care (Wells, 1999). This paradigm bases existing guidelines primarily on syntheses of findings from efficacy trials, which focus on the impact of manual-guided interventions administered by closely monitored treatment providers to carefully selected patient samples. We need to find out how effective and acceptable ensuing best practices are when they are disseminated in quality-improvement programs and applied to a diversity of patients under normal conditions of treatment delivery.

If the prevailing paradigm on the advancement of clinical practice is valid, then these efforts should lead to better quality care and improved client outcomes. If the prevailing paradigm is found wanting, we may see the emergence of a new perspective that emphasizes naturalistic longitudinal observation, the epidemiology and social manifestations of a disorder, community-based participatory research, and the value of interventions in improving the health of communities instead of just individuals (Hohmann & Shear, 2002; McLellan et al., 1996). Such a fundamental shift in the foci of our research would enable us to grasp the full implications of the essential role of social context in the ebb and flow of addictive disorders.

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