



Published in final edited form as:

Subst Use Misuse. 2008 ; 43(12-13): 2001–2020. doi:10.1080/10826080802293459.

The Road to Recovery: Where are we going and how do we get there? Empirically-driven conclusions and future directions for service development and research

Alexandre B. Laudet, PhD

Abstract

The term “*recovery*” is often used in the addiction field. However, we have thus far failed to define the term, to delineate its dimensions, or to elucidate the pre-requisite conditions to this outcome. This has hindered service development and evaluation as well as changes in policy. This paper: (1) Reviews empirical findings about how “*recovery*” is defined and experienced by individuals engaged in the process; (2) Examines factors associated with recovery initiation, maintenance and sustained life style, and review obstacles to recovery; and (3) Discusses implications for services and research; implications include the need to adopt a long-term, wellness centered approach to addressing substance use-related problems, the importance for society to address the stigma of former addiction and to offer attractive viable opportunities to promote making significant life changes towards recovery from substance use.

Keywords

Recovery; remission; substance use; substance user treatment; 12-step fellowships; quality of life

Introduction

Recovery, a concept once associated almost exclusively with 12-step fellowships such as Alcoholics Anonymous, has become all but a buzz word in government agencies. This includes the National Institute on Alcohol Abuse and Alcoholism (NIAAA) renaming its Division of Treatment to Division of Treatment and *Recovery* Research, the White House’s 2003 *Access to Recovery* (ATR) program, the Center for Substance Abuse Treatment’s *Recovery Community Support Program*, the Substance Abuse and Mental Health Services Administration’s *Recovery Month* and state Offices of Alcoholism and Substance Abuse Services’ inclusion of Recovery Services on their websites (e.g., New York State). There is also a growing grassroots movement of organizations such as Faces and Voices of Recovery and virtual communities (e.g., www.werecover.org).

As ‘*recovery*’ increases in popularity, there remains little consensus on what the terms means which hinders service development and evaluation, and funding policy decisions (Maddux & Desmond, 1986). Treatment services are expected to foster recovery and researchers seek to evaluate treatment’s effectiveness in reaching that goal; this requires that the goal be explicitly defined, and there must be a consensus among the various stakeholders (policymakers, funding sources, the general public, helping professionals, and clients of services). While most

biomedical fields typically have a relatively clear-cut consensual definition of what ‘remission’ means, for instance five years disease-free in oncology (Reis et al., 2003), the drug and alcohol field does not. Consequently, we have generated volumes of research and other ‘expert’ writings on a topic that few of us have sought to define explicitly. Of note, there have also been few attempts at informing the discussion with the experience of persons ‘in recovery’. This article summarizes empirical data about how recovery is defined, experienced, attained and maintained and about key obstacles to this process, with emphasis on data obtained from individuals living the recovery experience; implications are derived from these findings to guide service and policy development and evaluation.

What does ‘recovery’ mean?

Few studies have been conducted on the topic of recovery and existing ones typically fall short of defining the term. The bulk of what we know about addiction processes emanates from treatment evaluation studies. In spite of calls for a broader conceptualization of the treatment outcome (McLellan, McKay, Forman, Cacciola, & Kemp, 2005), most researchers implicitly define ‘recovery’ in terms of substance use only (Cisler, Kowalchuk, Saunders, Zweben, & Trinh, 2005) and most often as abstinence – either total abstinence from alcohol and all other drugs, or from the specific substance under study (Burman, 1997; Flynn, Joe, Broome, Simpson, & Brown, 2003; Granfield & Cloud, 2001; Scott, Foss, & Dennis, 2005). Several terms are typically used, seemingly interchangeably - *remission*, *resolution*, *abstinence* and *recovery*, as are the verbs *overcome*, *quit* and *recover*. These terms do not delineate between process and outcome, behaviors and lifestyles, empirically generalizable necessary conditions for them to operate or not to operate. Determining what authors mean by ‘recovery’ in scientific articles often does not become clear until the Methods section. There, “recovery” typically vanishes, to be replaced without explanation by “abstinence” (e.g., Fiorentine & Hillhouse, 2001). A few authors define *recovery* in terms of DSM criteria (American Psychiatric Association, 1994); for instance, one group defines *years of intervening recovery* “as the sum of all the yearly intervals during which alcohol use disorder diagnosis was not present” (McAweeney, Zucker, Fitzgerald, Puttler, & Wong, 2005, p. 223; also see Dawson et al., 2005). This practice of equating recovery with abstinence likely stems in part from the pervasive influence of abstinence-based 12-step recovery principles on treatment practices in the United States, and from the prevalent care and evaluation paradigm that focuses on symptoms rather than on wellness, on impairment rather than on functioning (see later discussion). The emphasis on abstinence is also consistent with the American Society of Addiction Medicine’s definition of *recovery* as “overcoming both physical and psychological dependence to a psychoactive drug while making a commitment to sobriety” (American Society of Addiction Medicine, 2001).

An important yet neglected question is *what does recovery mean to persons engaged in that process?* Answering this question can inform service development, funding decisions and policy toward helping individuals who seek recovery to reach their goals. We conducted a study among former substance users, the Pathways Project, to examine the question (the study is described in details in the articles cited in this section). Participants¹ (N = 289) had had a severe history of DSM-IV dependence (American Psychiatric Association, 1994) to crack or heroin lasting on average 18.7 years, and had not used any illicit drugs for an average (mean) of 31 months when they entered the study. They were asked to select the statement that best corresponds to their personal definition of recovery: *Moderate/controlled use of any drug and alcohol, No use of drug of choice/some use of other drugs and alcohol, No use of any drug (including pot) and some use of alcohol, and No use of any drug or alcohol (total*

¹Participants were recruited through media advertisement in New York City over one year starting in March 2003. They were interviewed four times at yearly interval.

abstinence). Most (86.5%) endorsed *total abstinence* (Laudet, 2007). Because the treatment system in the US is strongly influenced by 12-step ideology (McElrath, 1997), we repeated the study in Melbourne, Australia where the approach to substance user services focuses on reducing the harms of substance use - a harm minimization ideology. Australian participants were also individuals who had experienced a long and severe history of dependence, mostly to heroin, but who had not used any drugs recently. Three quarter (73.5%) of Australian participants endorsed total abstinence from both drugs and alcohol as their personal definition of recovery (Laudet & Storey, 2006). These findings are not surprising: addiction has relatively recently been conceptualized medically as a chronic condition (McLellan, Lewis, O'Brien, & Kleber, 2000) and recent studies indicate that resolving addiction often takes multiple attempt and treatment episodes often spanning two decades or longer (Dennis, Scott, Funk, & Foss, 2005; Laudet & White, 2004).² Individuals going through several cycles of abstinence followed by relapse may come to conclude that total abstinence is the best strategy to prevent relapse and corresponding negative consequences. Several studies have found that most failed remission attempts are based on moderation and that abstinence proves more successful (Burman, 1997; Maisto, Clifford, Longabaugh, & Beattie, 2002). Ilgen and colleagues recently reported findings from a 16 year follow-up study of individuals who had sought help for an alcohol disorder. One year after intake into the study, participants were classified in one of three groups according to their use of alcohol in the previous year: abstinence, non-problem drinking and problem drinking; over the subsequent 15-year study period, non-problem drinking was less stable than abstinence (Ilgen, Wilbourne, Moos, & Moos, 2008). Thus in terms of substance use, recovery from alcohol or drug abuse/dependence appears to be best defined as abstinence from all mood-altering substance. But is that all that recovery means?

Recovery: Beyond abstinence

In the Pathways Project described earlier, we not only asked participants to answer a forced-choice item about their definition of recovery (reported in the previous section), we also used qualitative methods and examined verbatim answers to the question: “*How would you define recovery from drug and alcohol use?*” While 43% of participants defined recovery in terms of substance use (typically abstinence), especially those whose abstinence duration at intake was under three years, over half provided answers that did not bear on substance use (Table 1). One of the themes that emerged frequently across participants regardless of their definition of recovery was that recovery is the process of regaining an identity (a self) lost to addiction (Laudet, 2007). For example, one participant defined recovery thus: “*Recovery, I just ... What is it for me? It's going back to me. Being reintroduced to [respondent's name] That's what it is for me. Because [respondent's name] started out. I was never born with a drug or drink in my mouth, you know.*”

In our study, overall, recovery was generally experienced as a process rather than as end point, and even among participants who did not define recovery in terms of substance use, abstaining from all mood-altering substances (i.e., alcohol and any drug used “to get high”) is regarded as a prerequisite to the other benefits of recovery.

Prolonged drug and alcohol misuse often has a wide range of negative consequences on nearly all aspects of functioning - vocational, social/familial/marital/friend, physical and mental health, intellectual functioning, residential status and access to services (American Psychiatric Association, 2000; Maisto & Mc Collam, 1980). Key factors implicated in the decision to

²The reader is referred to an extensive “natural recovery” literature which documents that notwithstanding the diagnosed, diseased, chronicity of substance use, a range of “users” have ceased their substance use without being in formal or informal ‘treatment’. [H.K. Klingemann and L.C. Sobell (eds.) 2001, Natural Recovery Research Across Substance Use, *Substance Use and Misuse* 36:11.; Shorkey, C.T. (2004). Spontaneous Recovery and Chemical Dependence: Indexed bibliography of articles Published in Professional Chemical Dependency Journals, University of Texas at Austin <http://128.83.80.200/tattc/spontaneousrecovery.html>] Editor's note.

initiate recovery both in the US and in Australia, include not liking where one's life is going, being tired of the drug life, the desire to get better, concerns about the consequences of substance use on oneself and on others, difficulty getting along with others, and seeing the negative consequences of use on other substance users (Laudet & Sgro, 2007). While substance use and the associated lifestyle may have led to these disruptions in functioning, ceasing drug use after a decade or longer of ongoing use is not likely, in and of itself, to 'result' in reverting these losses. Individuals in recovery often report that 'things are not going fast enough,' (Laudet, Magura, Vogel, & Knight, 2000a) meaning that while they are no longer using drugs or alcohol, other areas of life are not improving as rapidly as they hoped. Thus recovery goes beyond abstinence to encompass all areas of functioning that are affected by active use as well as those that may have facilitated the initiation of substance use (e.g., self-esteem, peer group norms, social conditions). Most clinical interventions, especially those for chronic conditions and public health problems, are evaluated not only for their effectiveness at reducing *symptoms* but also for their extended effects on the disease-related *costs* to the individual and to society (Stewart & Ware, 1989). Addressing (resolving) substance use only is likely to lead to a rather poor prognosis lest other causes and consequences are addressed as well. McLellan and colleagues have made the argument that "Typically, the immediate goal of *reducing alcohol and drug use is necessary but rarely sufficient for the achievement of the longer-term goals* of improved personal health and social function and reduced threats to public health and safety—i.e. recovery" (McLellan et al., 2005, p. 448). This conceptualization of clinical outcome is consistent with the World Health Organization's conceptualization of health as "*a state of complete physical, mental, and social well-being, not merely the absence of disease*" (World Health Organization, 1985).

Quality of life (QOL) is an area that remains neglected in the substance use disorder arena relative to other biomedical fields (Donovan, Mattson, Cisler, Longabaugh, & Zweben, 2005; Finney, Moyer, & Swearingen, 2003; Morgan, Morgenstern, Blanchard, Labouvie, & Bux, 2003; Preau et al., 2006; Rudolf & Watts, 2002; Smith & Larson, 2003) although it plays a potentially significant part in the recovery process. For example, among Pathways participants, higher levels of satisfaction with life prospectively predicted sustained abstinence from drug and alcohol use one and two years hence after controlling for other relevant variables; we showed that the association between QOL satisfaction and substance use is partially mediated by motivation: higher life satisfaction is thought to sustain motivation for abstinence (Laudet, Becker, & White, In press). These findings are consistent with the recent expert panel definition of recovery as "*a voluntarily maintained lifestyle comprised of sobriety, personal health and citizenship*" (Belleau et al., 2007, p.222).

What does it take to recover?

Factors associated with reductions in substance use

Most research aimed at identifying predictors of recovery has focused on factors associated with substance use behaviors, particularly abstinence. Professional substance user treatment is effective at promoting reductions in substance use and improvements in related functioning (Magura, Laudet, Kang, & Whitney, 1999; Mojtai & Graff Zivin, 2003; Simpson, Joe, & Broome, 2002; Teesson et al., 2006); however, treatment lasts a relatively short period of time, even when clients complete the planned duration of services. Treatment gains tend to be short-lived and post-treatment rates of return to substance use are high, often occurring within a short time after services end (Gossop, Stewart, Browne, & Marsden, 2002; Laudet, Stanick, & Sands, 2007). It is therefore important to identify non-treatment factors that promote the maintenance of treatment gains into the post-treatment period; these factors may also be useful to persons who wish to stop using drugs and/or alcohol without seeking professional help—'self-changers' (Toneatto, Sobell, Sobell, & Rubel, 1999; Sobell et al., 2001).

In seeking to determine what it takes to reduce or cease substance use, a useful approach is to examine the experiences of persons who are living the experience. Lessons learnt from relapse are especially informative. In our Pathways Project, 71% of participants had had one or more period when they had voluntarily not used drugs for a month or longer then returned to drug use; of those, 51% had had four or more such periods. Asked what they had learnt from the experience, 22% cited the importance of wanting to recover and the need to keep focusing on and working on that goal; other frequently cited mentions were the need to identify and avoid relapse triggers (18%), the need to seek and accept support from others (15%), and the importance of recognizing that one cannot drink alcohol or use 'socially' (10%) (Laudet & White, 2004). Factors cited by persons in recovery as sources of strength in not using drugs or alcohol include the support of family, friends and peers (see later section), spirituality and faith, and remembering the past - i.e., negative consequences of drug use (Burman, 1997; Laudet, Savage, & Mahmood, 2002; Margolis, Kilpatrick, & Mooney, 2000). Phrased differently, these findings suggest that motivation, especially motivation for abstinence, strategies to cope with triggers, and emotional support (social support, spirituality) are critical to remaining drug-free.

In addition to elucidating factors associated with not returning to drug use, it is also useful to examine factors that are perceived to 'trigger' return to substance use. Across studies, negative emotions (e.g., loneliness, boredom), temptation to use (being offered drugs, seeing others use), and stressful situations have been cited as perceived reasons for relapse (Laudet & White, 2004; Laudet, Magura, Vogel, & Knight, 2004; Titus et al., 2002). The experience of substance users, summarized above, is supported by a large body of empirical findings, most of it US-based with a smaller body of research emanating from the UK and Australia, that points to motivation, social support, and positive coping strategies as domains that constitute *protective resources* to prevent relapse (Gossop, Green, Phillips, & Bradley, 1989; Gossop et al., 2002; Hser, 2007; Moos & Moos, 2007; Teesson et al., 2006) whereas stress is associated with return to substance use.

Factors associated with enhanced recovery outcomes

As previously noted, research on quality of life (QOL) among substance users is in its infancy. We examined the individual and combined contribution of duration of abstinence and of 'recovery capital' operationalized as social supports, spirituality, meaning, religiousness and 12-step affiliation, on QOL satisfaction in our Pathways sample. Findings showed that quality of life satisfaction increases significantly as a function of duration of abstinence, while stress decreases over time (Laudet, Morgen, & White, 2006). Recovery capital was hypothesized to improve the ability to respond to stress and to enhance QOL satisfaction. In cross-sectional analyses using structural equation modeling (SEM), the final model explained 22.2% of QOL variance; in regression analyses however, taken together, the predictors accounted for 60.6% of the explained variance in QOL (remission duration accounted for 9% only) underlining the importance of psychosocial processes (protective resources) in enhancing life satisfaction among persons 'in recovery.' Building on these findings, we repeated the analyses prospectively and tested the hypothesis that higher levels of recovery capital (operationalized as stated above) predicts higher quality of life satisfaction and lower stress one year later. Participants were classified into one of four time-linked recovery benchmarks according to duration of abstinence from drugs at baseline: Under 6 months in recovery (28% - early recovery), 6 to under 18-months (26%), 18 to 36 months (20%), and over three years (26% - sustained recovery). Controlling for baseline QOL satisfaction level, the model was significant for the total sample. In subgroup analyses for the early recovery group (< 6 months), baseline duration of abstinence was the only significant predictions of QOL one year later; however, for the three other groups (longer duration of abstinence at baseline), length of remission *did not* significantly predict of QOL; across subgroups, the hypothesized predictors (recovery capital) accounted for between 12% and 29% of the explained variance in QOL. In particular,

baseline stress was the only significant (negative) predictor of QOL satisfaction a year later among persons who had been drug-free 6 to 18 months at baseline (Laudet & White, 2008). In addition to these two studies explicitly examining QOL, several others have examined the role of predictors of well-being, a construct conceptually related to QOL (for review see Finney et al., 2003).

Overall, a number of factors have been empirically demonstrated to promote reductions in substance use and to enhance well-being or life satisfaction and are often cited as important by persons in recovery. These protective factors or ‘recovery capital’ (Granfield & Cloud, 2001; Laudet & White, 2008) include motivation for change (especially motivation for abstinence), coping skills to deal with stress and temptations to use without resorting to drugs or alcohol, and sources of emotional support (friends and family, peers, spirituality and faith).

Enhancing recovery capital: Participation in 12-step fellowships

Professional substance user treatment, regardless of its orientation, aims to provide clients with skills and resources to facilitate not using drugs.

- Cognitive-behavioral treatment focuses on imparting clients with a set of cognitive skills including self-efficacy for change and adaptive coping strategies (Rounsaville & Carroll, 1993),
- Twelve-step “Minnesota model” treatment (McElrath, 1997) encourages clients to adopt the ‘disease’ view of addiction as a lifelong condition that requires ongoing ‘work’ and seeking external help to be managed;
- Motivational interviewing aims to enhance clients’ focus on the consequences of their drug use and to reduce ambivalence about initiating remission, and therefore enhancing their motivation to stop using (Miller W. & Rollnick S., 2002; Miller W. & Rollnick S., 1991).

Treatment services tend to be relatively short (3 months or shorter for outpatient services, the most prevalent treatment modality in the US) and skills acquired during treatment do not always endure after treatment as the individual may revert to pre-treatment behaviors and socialization patterns. While participation in ‘stepped down’ continuing care following treatment is recommended and effective to solidify treatment gains (McKay et al., 1998), most programs do not offer these services. Twelve-step fellowships such as Alcoholics and Narcotics Anonymous are the most frequently used form of aftercare in the United States (Tonigan, Toscova, and Miller, 1996). These organizations are particularly well-suited to provide ongoing recovery support from chronic substance abuse and dependence because, unlike formal services that are limited in time, these groups are widely and consistently available free of charge. Twelve-step meetings are especially common in the United States but they also have well-established presences in over one hundred foreign countries including “developed” countries such as Australia (Toumbourou, Hamilton, U’Ren, Stevens-Jones, & Storey, 2002) and the UK (Best et al., 2001; Christo & Franey, 1995) but also in countries with more limited resources such as the Russian Federation (Lobodov & Zemlyanskaya, 2007; for review see Humphreys, 2004). Twelve-step fellowships hold regular meetings in community-based settings where members can discuss their shared experiences in a non-judgmental, supporting forum. Participation in 12-step groups exposes members to peers (persons who share a common problems they seek to address) who are succeeding at remaining drug free, thus providing role models with whom they can identify, evidence that recovery is attainable, strategies to cope with temptations to use and with other stressors, emotional support to deal with the challenges of recovery, a spiritual foundation for those who choose to work the 12-step program of recovery (Alcoholics Anonymous World Services, 1939-2001), and opportunities to socialize with non drug using peers (Humphreys & Noke, 1997; Humphreys, Mankowski, Moos, &

Finney, 1999; Laudet, Cleland, Magura, Vogel, & Knight, 2004; Morgenstern & McCrady, 1993; Morgenstern et al., 2003; for review, see Humphreys, 2004).

A vast body of research supports the effectiveness of 12-step participation in fostering reductions in alcohol and illicit drug use (Etheridge, Craddock, Hubbard, & Rounds-Bryant, 1999; Fiorentine, 1999; Gossop et al., 2003; Humphreys & Moos, 2001; Laudet, Magura, Vogel, & Knight, 2000b; Moos & Moos, 2007; Morgenstern et al., 2003; Project MATCH Research Group, 1997; for review, see Tonigan, Toscova, & Miller, 1996). Among individuals concurrently attending professional treatment, 12-step meeting attendance produces independent and additive effects to treatment outcomes (Fiorentine & Hillhouse, 2000). The support that 12-step participation offers is especially important after treatment ends: 12-step meeting attendance after formal treatment, i.e., as aftercare, is a strong predictor of abstinence in both short- and long-term studies (Kaskutas et al., 2005; Kelly, Stout, Zywiak, & Schneider, 2006; Laudet et al., 2007; Morgenstern et al., 2003). The effectiveness of 12-step participation rises in tandem with addiction severity (Tonigan et al., 1996) and one study recently reported a stronger association between 12-step attendance and abstinence among patients who were younger, white, less-educated, unstably employed, less religious, and less interpersonally skilled, individuals who may have had fewer available social resources and so benefited more from the fellowship and support for abstinence that 12-step group members often provide (Timko, Billow, & DeBenedetti, 2006). As with formal treatment, higher level of 12-step meeting attendance - especially weekly or more frequent attendance (Fiorentine, 1999) and longer duration of participation are associated with better outcomes (Moos, Moos, & Timko, 2006); 12-step attendance early in the recovery process is particularly important to consolidate treatment gains (Humphreys, Moos, & Cohen, 1997).

We assessed the role of recovery capital (motivation, self-efficacy, spirituality and religious beliefs, life meaning, social support and continuous 12-step participation over the duration of the study) on continuous abstinence over three years among Pathways participants. Half of the sample (53.6%) remained continuously abstinent from illicit drugs over three years (corroborated by biological sampling); controlling for baseline duration of abstinence, continuous participation in 12-step over the duration of the study emerged as the *only* predictor of sustained remission, associated with 2.8 times better odds of remaining abstinent among persons in remission for under 6 months at baseline (early recovery, the most vulnerable period in terms of relapse risks) and 5.1 better odds of sustained abstinence among men (Laudet & White, 2007).

The benefits of 12-step participation extend beyond substance use, however (Humphreys et al., 2004). Research has documented the benefits of 12-step participation in psychosocial functioning and recovery-promoting domains, including enhanced self-efficacy to resist temptations to use drugs and/or alcohol and motivation for abstinence (Kelly, Myers, & Brown, 2000; Morgenstern, Labouvie, McCrady, Kahler, & Frey, 1997), improved coping strategies (Humphreys, Finney J., & Moos RH, 1994; Humphreys, Moos, & Finney, 1996; Morgenstern et al., 1997; Timko, Finney, Moos, & Moos, 1995; Timko, Moos, Finney, & Lesar, 2000; Snow, Prochaska, & Rossi, 1994), improved social support and particularly social support for recovery (Humphreys & Noke, 1997; Humphreys et al., 1999), reduced psychological problems such as depression and anxiety (Gossop et al., 2003), lower stress (Laudet & White, 2008), higher quality of life (Gossop et al., 2003) and higher levels of life meaning and purpose (White & Laudet, 2006).

Meeting attendance is the most common and the most researched form of 12-step participation. Fellowship with other recovering persons at 12-step meetings is one of the cornerstones of the 12-step recovery program, cited as a critical source of support by remitting individuals (Laudet et al., 2002; Margolis et al., 2000). However, the 12-step program of recovery suggests that

participation in the fellowship extends beyond meeting attendance. Benefits of meeting attendance (e.g., stable abstinence) can be enhanced through other suggested practices representing *12-step affiliation*, such as having a sponsor, working the 12-steps, having a home group, reading 12-step recovery literature and doing 'service' (Caldwell & Cutter, 1998). Meeting attendance alone – i.e., without affiliative behaviors - is associated with high attrition and consequent loss of the potential benefits of 12-step participation (Walsh et al., 1991). Moreover, level of 12-step affiliation may be more predictive of remission outcomes than is meeting attendance alone (Timko & Debenedetti, 2007; Weiss et al., 2005). Overall, participation in 12-step appears to constitute an effective (and cost-effective) recovery resource, both during and after formal services.

Coming full circle: Barriers to help-seeking among substance users

In spite of their demonstrated effectiveness, substance user treatment and 12-step fellowships are underutilized. Treatment utilization estimates suggests that less than one tenth of those thought to be in need of care actually seek professional treatment (Substance Abuse and Mental Health Services Administration, 2004) and attrition rates among those who seek services are high (McLellan & Meyers, 2004) ranging from a low of 27% to a high of 47% in the first few weeks of care among cocaine dependent persons (Alterman, McKay, Mulvaney, & McLellan, 1996). Although the majority of substance dependent persons report some lifetime attendance at 12-step fellowships (Humphreys, Kaskutas, & Weisner, 1998) and many view 12-step as a helpful recovery resource (Laudet, 2003), a sizable portion never do attend – for instance, 26% of a sample of cocaine dependent persons followed for two years after treatment reported no 12-step attendance over the study period (Fiorentine, 1999). Further, attrition is high among those who do attend 12-step meetings, particularly early on (Fiorentine, 1999; Laudet et al., 2007; McKay, Merikle, Mulvaney, Weiss, & Koppenhaver, 2001; Timko, Finney, Moos, Moos, & Steinbaum, 1993).

Examining reasons for non-participation in or attrition from treatment and/or 12-step can help elucidate barriers to recovery. There are of course systemic and structural barriers (Blankenship, Friedman, Dworkin, & Mantell, 2006) to help seeking that include wait-lists and decreased treatment quality (McLellan, Chalk, & Bartlett, 2007) among others. In one of our studies among clients in publicly funded outpatient substance user treatment in New York City,³ 59.8% dropped out of the program before completing the planned duration of services (the study is described in more details in Laudet et al., 2007). We examined participants' answers to open-ended questions about why they left treatment (Table 2): one third reported not liking an aspect of the agency and nearly one quarter did not want help or were using drugs and did not wish to stop. Asked whether the program could have done something differently that would have led them to remain in treatment, two-thirds (67.8%) answered in the negative, suggesting that treatment retention is indeed a challenge.

We also conducted studies among substance users and clinicians working in treatment programs to identify reasons for non-participation in, and attrition from, 12-step fellowships. Across samples including substance users dually-diagnosed with a mental health disorder, low motivation, problem denial and not recognizing the need for support are the most frequently cited reasons for not attending 12-step meetings; clinicians' answers are generally consistent that of substance users in identifying these obstacles to 12-step participation (Laudet, 2003; Laudet, Magura, Vogel, & Knight, 2003). For example, in one study of clients enrolled in outpatient substance user treatment, 85% had attended Narcotics Anonymous at some point in their life and stopped attending for a month or longer; clients with such an interrupted attendance pattern reported, on average, six cycles of 12-step attendance followed by dropping

³Clients were recruited between September 2003 and December 2004 (96% of those asked).

out; asked why they dropped out, 33% said “I was not ready to stop using” and 25% felt they could recover on their own -i.e., without help (Laudet, Stanick, Carway, & Sands, 2004). Of note, the most frequently cited limitation of 12-step groups in one study was “You have to want to recover/need motivation,” cited by 31% of clients and 25% of clinicians (Laudet, 2003) again pointing to motivation as a critical ‘ingredient’ of recovery initiation.

Lessons learnt from the relapse experience, presented earlier, indicate that recovery requires motivation and seeking/accepting support; low motivation and low perceived need for support are consistently cited as reasons for not participating in 12-step, an effective recovery resource, and by a substantial percentage of persons who leave treatment before completing planned services. Taken together, empirical evidence underlines the critical importance of motivation for change and recognizing the need for others’ support in initiating and maintaining abstinence and related life changes that combined, constitute ‘recovery.’”

Implications and Future directions

Implications for treatment and policy

We have reviewed findings suggesting that, for most, recovery is a process of attaining abstinence from drugs and alcohol but also of ‘re-covering’ oneself. Motivation, social support and adaptive strategies to cope with stress without resorting to substance use are among the key resources that promote the initiation and maintenance of recovery, while lack of a posited necessary state of motivation, low perceived need for support, and experienced stress are associated with return to substance use. Participation in professional substance user treatment and in 12-step fellowships can be effective resources as well but attrition is high and low motivation and perceived need for help constitute major obstacles to retention. These findings have a number of implications for clinical practice, for research and for policy.

If the goal of treatment is to foster recovery as defined here, that is, not just abstinence, the system of care and evaluation (research) must make two major shifts: First is a shift away from symptom-focused care and evaluation to wellness-oriented practices as most recently adopted by other biomedical disciplines where quality of life is being increasingly recognized as a bona fide treatment goal and outcome of evaluation research (Foster, Powell, Marshall, & Peters, 1999). Second is a move away from the prevalent acute model where one treatment episode is expected to ‘cure’ addiction, toward a model of continuing care (or *through care*, from early case finding *through* planned aftercare and needed follow-up) and sustained recovery management. Underlying such a model is the assumption that the process involved in fostering and sustaining change may occur gradually over multiple, linked service interventions that unfold over years (Hser, Anglin, Grella, Longshore, & Prendergast, 1997). The shift is from an emergency room model of brief intervention to a model more analogous to the long-term management of chronic primary diseases such as diabetes, hypertension and asthma (Dennis et al., 2005; McLellan et al., 2005). Such a model would emphasize post-treatment monitoring and support, active linkage to recovery mutual-aid resources, stage-appropriate recovery education and, when needed, early re-intervention (White, Boyle, & Loveland, 2002) that can be associated with opportunities for ongoing outreach. There is empirical support for the effectiveness of this model (Scott, Dennis, & Foss, 2005).

In addition to these overall shifts in orientation, strategies must be enhanced that foster problem recognition and the recognition that recovery requires ongoing support, that is, one cannot and should not, recover ‘*on their own*.’ Substance user treatment services can enhance the odds of successful outcomes by including interventions designed to increase motivation for change such as Brief Motivational Interviewing⁴ (Miller & Rollnick, 2002) and practices that facilitate participation in 12-step fellowships as well as other types of mutual-help opportunities. We have found that outpatient programs that hold 12-step meetings on the premises are

significantly more successful at promoting 12-step participation *during* treatment and that participation is sustained after services end, significantly increasing the odds of sustained abstinence from drugs in the post treatment year (Laudet et al., 2007). Twelve-step fellowships may not be appropriate for all clients, for example their spiritual focus and emphasis on concepts such as surrender and powerlessness are obstacles to participation for some (Klaw & Humphreys, 2000). Therefore, clinicians should work with each client individually in order to assess needs, available social resources and a ‘fit’ between support resources and referral; for example, where available, suitable alternatives to 12-step may include Secular Organization for Sobriety (SOS), Moderation Management (Horvath, 1997), Smart Recovery, or Women for Sobriety (Kaskutas, Weisner, & Caetano, 1997).

Because only a small percentage of persons who may need substance user treatment ever seek it, interventions in less specialized settings must also be implemented to enhance problem recognition and access to services among persons with alcohol or drug use-related problems. Primary care settings (e.g., general practitioners’ offices and emergency rooms) are ideally suited to conduct screenings and brief interventions (National Institute on Alcohol Abuse and Alcoholism, 2005). Finally, greater efforts must be undertaken to disseminate the message that recovery as well as other ‘healthy’ life-changes can be attained, maintained and sustained; the stigma which has been and continues to be projected onto “addiction” must be addressed at the societal level and among selected stakeholders and gatekeepers (e.g., professional treatment programs and delivery of care disciplines) more specifically. Stigma contributes to discrimination in terms of employment, health and treatment/delivery of service disparity and other opportunities for persons in recovery and this may hinder progress toward the goal of a better life that sets many on the path to recovery. Reducing stigma and creating more opportunities for persons in recovery can also enhance and sustain motivation for change by offering a chance at a satisfying life that ‘competes’ with temptations to return to drug use (Bickel, DeGrandpre, & Higgins, 1993; DeGrandpre, Bickel, Higgins, & Hughes, 1994) and thus promotes sustained recovery.

Acknowledgements

This work was supported by NIDA Grants R01 DA14409, R01 DA015133 and by a grant from the Peter McManus Charitable Trust.

Glossary

Addiction severity

A measure of the extent to which an individual is physical and/or psychologically dependent on a substance (alcohol or drug) and of the nefarious consequences of dependence in key areas of functioning (family, social, work, recreation, health)

Moderation Management

Self-help group founded in 1993 on the premise that problem drinking, unlike chronic alcohol dependence, is a learned behavioral habit that can be brought under control. May present an alternative for persons who abuse alcohol but are not dependent on it

Quality of life

⁴Traditionally BMI is offered to and used with IP’s (identified patients/persons) who need to change and/or want to change. In an era in which harm reduction and quality-of-life ideologies are now part of the substance use disorder treatment armamentarium, it may be useful to consider offering this service and opportunity to active substance user, for example in the context of peer-driven intervention whose agents function and adapt within their social and risk networks and communities. Editor’s note.

A terms that captures a broad range of clinical, functional and personal variables in key life areas including physical, mental, social and spiritual health

Recovery

As used most often in the United States in relationship to addiction, ‘recovery’ is the process of gaining or re-gaining a level of functioning (psychosocial, physical, mental and spiritual) that does not center around acquiring consuming a mood altering substance the term initially used in the context of 12-step parlance, has been adopted beyond these circles but as stated in this paper and elsewhere, it has not to date been defined with such precision and care that it can be operationalized and measured

Recovery capital

The amount of personal and social resources an individual has available to provide strength and support in the process of recovery from addiction

Relapse

A term referring to returning to active use of alcohol and/or drugs after a period of abstinence – increasing regarded as a pejorative in the context of addiction conceptualized as a chronic condition

Relapse triggers

Conditions or circumstances (psychological or environmental) that an individual with a substance-use related problem perceives to increase the likelihood that a substance will be used; in 12-step parlance, “people places and things.”

Religiousness

beliefs and./or practices that it involves a system of worship and doctrine is shared within a group

Secular Organization for Sobriety

Self help group that embraces rationality and scientific knowledge and does not include any spiritual content; believes that abstinence can be achieved through group support and through making sobriety one’s priority in life.

Self-efficacy

Level of confidence in one’s ability to perform a given behavior as applied to substance use refers to the extent to which one feels able to resist using drugs or alcohol under conditions that represent temptation to use for that individual – so called ‘relapse triggers.’

SMART Recovery

Self help group that regards excessive use of substances as a maladaptive behavior rather than a disease. Relies on evidence-based cognitive-behavioral techniques to enhance members’ motivation, coping skills, ability to identify and modify irrational thinking

Spirituality

A pursuit concerned with the transcendent, addressing ultimate questions about life’s meaning, with the assumption that there is more to life than what we see or fully understand

Well-being

A somewhat ill-defined term that broadly refers to quality of life (QOL- see above) especially as perceived by the individual

Women For Sobriety

Self help group founded in 1976 to help women alcoholics recover through a positive, feminist program that encourages increased self-worth and enhanced emotional and spiritual growth; emphasizes the value of having all-female groups to improve members' self-esteem and facilitate self-discovery.

Reference List

- Alcoholics Anonymous World Services, I. Alcoholics Anonymous: The Story of How Many Thousands of Men and Women have Recovered from Alcoholism. 4. New York: Alcoholics Anonymous World Services Inc; 1939–2001.
- Alterman AI, McKay JR, Mulvaney FD, McLellan AT. Prediction of attrition from day hospital treatment in lower socioeconomic cocaine-dependent men. *Drug Alcohol Depend* 1996;40(3):227–33. [PubMed: 8861401]
- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). Washington, D.C.: American Psychiatric Association; 1994.
- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text-Revision (DSM-IV-TR). Washington, D.C.: American Psychiatric Association; 2000.
- American Society of Addiction Medicine. Patient placement criteria for the treatment of substance use disorders. Chevy Chase, MD: American Society of Addiction Medicine; 2001.
- Belleau C, DuPont R, Erickson C, Flaherty M, Galanter M, Gold M, Kaskutas L, Laudet A, McDavid C, McLellan AT, Morgenstern J, Rubin E, Schwarzlose J, White W. What is recovery? A working definition from the Betty Ford Institute. *J Subst Abuse Treat* 2007;33(3):221–228. [PubMed: 17889294]
- Best DW, Harris JC, Gossop M, Manning VC, Man LH, Marshall J, Bearn J, Strang J. Are the Twelve Steps more acceptable to drug users than to drinkers? A comparison of experiences of and attitudes to Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) among 200 substance misusers attending inpatient detoxification. *Eur Addict Res* 2001;7(2):69–77. [PubMed: 11455172]
- Bickel WK, DeGrandpre RJ, Higgins ST. Behavioral economics: a novel experimental approach to the study of drug dependence. *Drug Alcohol Depend* 1993;33(2):173–92. [PubMed: 8261882]
- Blankenship KM, Friedman SR, Dworkin S, Mantell JE. Structural interventions: concepts, challenges and opportunities for research. *J Urban Health* 2006;83(1):59–72. [PubMed: 16736355]
- Burman S. The challenge of sobriety: natural recovery without treatment and self-help groups. *J Subst Abuse* 1997;9:41–61. [PubMed: 9494938]
- Caldwell PE, Cutter HS. Alcoholics Anonymous affiliation during early recovery. *J Subst Abuse Treat* 1998;15(3):221–8. [PubMed: 9633034]
- Christo G, Franey C. Drug users' spiritual beliefs, locus of control and the disease concept in relation to Narcotics Anonymous attendance and six-month outcomes. *Drug Alcohol Depend* 1995;38(1):51–6. [PubMed: 7648997]
- Cisler RA, Kowalchuk RK, Saunders SM, Zweben A, Trinh HQ. Applying clinical significance methodology to alcoholism treatment trials: determining recovery outcome status with individual- and population-based measures. *Alcohol Clin Exp Res* 2005;29(11):1991–2000. [PubMed: 16340456]
- Dawson DA, Grant BF, Stinson FS, Chou PS, Huang B, Ruan WJ. Recovery from DSM-IV alcohol dependence: United States, 2001–2002. *Addiction* 2005;100(3):281–92. [PubMed: 15733237]
- DeGrandpre RJ, Bickel WK, Higgins ST, Hughes JR. A behavioral economic analysis of concurrently available money and cigarettes. *J Exp Anal Behav* 1994;61(2):191–201. [PubMed: 8169568]
- Dennis ML, Scott CK, Funk R, Foss MA. The duration and correlates of addiction and treatment careers. *J Subst Abuse Treat* 2005;28(Suppl 1):S51–62. [PubMed: 15797639]
- Donovan D, Mattson ME, Cisler RA, Longabaugh R, Zweben A. Quality of life as an outcome measure in alcoholism treatment research. *J Stud Alcohol Suppl* 2005;(15):119–39. 92–3. [PubMed: 16223064]

- Etheridge RM, Craddock SG, Hubbard RL, Rounds-Bryant JL. The relationship of counseling and self-help participation to patient outcomes in DATOS. *Drug Alcohol Depend* 1999;57(2):99–112. [PubMed: 10617095]
- Finney JW, Moyer A, Swearingen CE. Outcome variables and their assessment in alcohol treatment studies: 1968–1998. *Alcohol Clin Exp Res* 2003;27(10):1671–9. [PubMed: 14574240]
- Fiorentine R. After drug treatment: are 12-step programs effective in maintaining abstinence? *Am J Drug Alcohol Abuse* 1999;25(1):93–116. [PubMed: 10078980]
- Fiorentine R, Hillhouse MP. Exploring the additive effects of drug misuse treatment and Twelve-Step involvement: does Twelve-Step ideology matter? *Subst Use Misuse* 2000;35(3):367–97. [PubMed: 10714452]
- Fiorentine R, Hillhouse MP. The addicted-self model: An explanation of ‘natural’ recovery. *Journal of Drug Issues* 2001;31:395–424.
- Flynn PM, Joe GW, Broome KM, Simpson DD, Brown BS. Looking back on cocaine dependence: reasons for recovery. *Am J Addict* 2003;12(5):398–411. [PubMed: 14660154]
- Foster JH, Powell JE, Marshall EJ, Peters TJ. Quality of life in alcohol-dependent subjects—a review. *Qual Life Res* 1999;8(3):255–61. [PubMed: 10472156]
- Gossop M, Green L, Phillips G, Bradley B. Lapse, relapse and survival among opiate addicts after treatment. A prospective follow-up study. *Br J Psychiatry* 1989;154:348–53. [PubMed: 2597836]
- Gossop M, Harris J, Best D, Man LH, Manning V, Marshall J, Strang J. Is attendance at Alcoholics Anonymous meetings after inpatient treatment related to improved outcomes? A 6-month follow-up study. *Alcohol Alcohol* 2003;38(5):421–6. [PubMed: 12915517]
- Gossop M, Stewart D, Browne N, Marsden J. Factors associated with abstinence, lapse or relapse to heroin use after residential treatment: protective effect of coping responses. *Addiction* 2002;97(10):1259–67. [PubMed: 12359030]
- Granfield R, Cloud W. Social context and “natural recovery”: the role of social capital in the resolution of drug-associated problems. *Subst Use Misuse* 2001;36(11):1543–70. [PubMed: 11693955]
- Horvath, AT. Alternative support groups. In: Lowinson, J.; Ruiz, P.; Millman, R.; Langrod, J., editors. *Substance Abuse: A Comprehensive Textbook*. 3. Baltimore, Maryland: Williams & Wilkins; 1997. p. 390-396.
- Hser YI. Predicting long-term stable recovery from heroin addiction: findings from a 33-year follow-up study. *J Addict Dis* 2007;26(1):51–60. [PubMed: 17439868]
- Hser YI, Anglin MD, Grella C, Longshore D, Prendergast ML. Drug treatment careers. A conceptual framework and existing research findings. *J Subst Abuse Treat* 1997;14(6):543–58. [PubMed: 9437626]
- Humphreys, K. *Circles of Recovery: Self-help organizations for addictions*. Cambridge, UK: Cambridge University Press; 2004.
- Humphreys K, Finney J, Moos RH. Applying a stress and coping framework to research on mutual help organizations. *Journal of Community Psychology* 1994;22:312–327.
- Humphreys K, Kaskutas LA, Weisner C. The Alcoholics Anonymous Affiliation Scale: development, reliability, and norms for diverse treated and untreated populations. *Alcohol Clin Exp Res* 1998;22(5):974–8. [PubMed: 9726265]
- Humphreys K, Mankowski E, Moos RH, Finney JW. Do enhanced friendships networks and active coping mediate the effect of selfhelp groups on substance use? *Annals of Behavioral Medicine* 1999;21(1):54–60. [PubMed: 18425655]
- Humphreys K, Moos R. Can encouraging substance abuse patients to participate in self-help groups reduce demand for health care? A quasi-experimental study. *Alcohol Clin Exp Res* 2001;25(5):711–6. [PubMed: 11371720]
- Humphreys K, Moos RH, Cohen C. Social and community resources and long-term recovery from treated and untreated alcoholism. *J Stud Alcohol* 1997;58(3):231–8. [PubMed: 9130214]
- Humphreys K, Moos RH, Finney JW. Life domains, alcoholics anonymous, and role incumbency in the 3-year course of problem drinking. *J Nerv Ment Dis* 1996;184(8):475–81. [PubMed: 8752076]
- Humphreys K, Noke JM. The influence of posttreatment mutual help group participation on the friendship networks of substance abuse patients. *Am J Community Psychol* 1997;25(1):1–16. [PubMed: 9231993]

- Humphreys K, Wing S, McCarty D, Chappel J, Gallant L, Haberle B, Horvath AT, Kaskutas LA, Kirk T, Kivlahan D, Laudet A, McCrady BS, McLellan AT, Morgenstern J, Townsend M, Weiss R. Self-help organizations for alcohol and drug problems: toward evidence-based practice and policy. *J Subst Abuse Treat* 2004;26(3):151–8. 159–65. [PubMed: 15063905]PMCID: 1950466
- Ilgen MA, Wilbourne PL, Moos BS, Moos RH. Problem-free drinking over 16 years among individuals with alcohol use disorders. *Drug Alcohol Dependence* 2008;92(1–3):116–122.
- Kaskutas LA, Ammon L, Delucchi K, Room R, Bond J, Weisner C. Alcoholics anonymous careers: patterns of AA involvement five years after treatment entry. *Alcohol Clin Exp Res* 2005;29(11):1983–90. [PubMed: 16340455]
- Kaskutas LA, Weisner C, Caetano R. Predictors of help seeking among a longitudinal sample of the general population, 1984–1992. *J Stud Alcohol* 1997;58(2):155–61. [PubMed: 9065893]
- Kelly JF, Myers MG, Brown SA. A multivariate process model of adolescent 12-step attendance and substance use outcome following inpatient treatment. *Psychol Addict Behav* 2000;14(4):376–89. [PubMed: 11130156]
- Kelly JF, Stout R, Zywiak W, Schneider R. A 3-year study of addiction mutual-help group participation following intensive outpatient treatment. *Alcohol Clin Exp Res* 2006;30(8):1381–92. [PubMed: 16899041]
- Klaw E, Humphreys K. Life stories of Moderation Management mutual help groups members. *Contemporary Drug Problems* 2000;27:779–803.
- Laudet A, Becker J, White W. Don't wanna go through that madness no more: Quality of life satisfaction as predictor of sustained substance use remission. *Substance Use and Misuse*. In press
- Laudet, A.; Sgro, M. Recovery promoting factors and predictors of life satisfaction among former polysubstance users in the US and in Australia. Quebec City, Canada; International NIDA Research Forum: 2007. <http://international.drugabuse.gov/downloads/2007ForumAbstract.pdf>
- Laudet, A.; Stanick, V.; Carway, J.; Sands, B. 132nd Annual Meeting of the American Public Health Association. Washington DC: American Public Health Association; 2004. Perceptions of Narcotics & Alcoholics Anonymous among polysubstance users newly admitted to outpatient treatment.
- Laudet A, Stanick V, Sands B. The effect of onsite 12-step meetings on post-treatment outcomes among polysubstance-dependent outpatient clients. *Evaluation Review* 2007;31(6):613–46. [PubMed: 17986710]
- Laudet, A.; Storey, G. NIDA International Research Forum. National Institutes on Drug Abuse; Quebec City, Canada: 2006. A comparison of the recovery experience in the US and Australia: Toward identifying 'universal' and culture-specific processes.
- Laudet, A.; White, W. 132nd Annual Meeting of the Amer. Public Health Association; 2004. An exploration of relapse patterns among former poly-substance users.
- Laudet, A.; White, W. Predicting continuous abstinence over three years among former polysubstance users: toward a comprehensive model. 69th Annual Scientific Meeting of the College on Problems of Drug Dependence (CPDD); 2007.
- Laudet A, White W. Recovery Capital as Prospective Predictor of Sustained Recovery, Life satisfaction and Stress among former poly-substance users. *Substance Use and Misuse* 2008;43(1):27–54. [PubMed: 18189204]
- Laudet AB. Attitudes and beliefs about 12-step groups among addiction treatment clients and clinicians: toward identifying obstacles to participation. *Subst Use Misuse* 2003;38(14):2017–47. [PubMed: 14677780]
- Laudet AB. What does recovery mean to you? Lessons from the recovery experience for research and practice. *J Subst Abuse Treat* 2007;33(3):243–56. [PubMed: 17889296]
- Laudet AB, Cleland CM, Magura S, Vogel HS, Knight EL. Social support mediates the effects of dual-focus mutual aid groups on abstinence from substance use. *Am J Community Psychol* 2004;34(3–4):175–85. [PubMed: 15663205]
- Laudet AB, Magura S, Vogel HS, Knight E. Recovery challenges among dually diagnosed individuals. *J Subst Abuse Treat* 2000a;18(4):321–9. [PubMed: 10812304]
- Laudet AB, Magura S, Vogel HS, Knight E. Support, mutual aid and recovery from dual diagnosis. *Community Ment Health J* 2000b;36(5):457–76. [PubMed: 10994680]

- Laudet AB, Magura S, Vogel HS, Knight EL. Participation in 12-Step-Based Fellowships Among Dually-Diagnosed Persons. *Alcohol Treat Q* 2003;21(3):19–39. [PubMed: 17361312]
- Laudet AB, Magura S, Vogel HS, Knight EL. Perceived reasons for substance misuse among persons with a psychiatric disorder. *Am J Orthopsychiatry* 2004;74(3):365–75. [PubMed: 15291712]
- Laudet AB, Morgen K, White WL. The Role of Social Supports, Spirituality, Religiousness, Life Meaning and Affiliation with 12-Step Fellowships in Quality of Life Satisfaction Among Individuals in Recovery from Alcohol and Drug Problems. *Alcohol Treat Q* 2006;24(1–2):33–73. [PubMed: 16892161]
- Laudet AB, Savage R, Mahmood D. Pathways to long-term recovery: a preliminary investigation. *J Psychoactive Drugs* 2002;34(3):305–11. [PubMed: 12422942]
- Lobodov, B.; Zemlyanskaya, N. Deficits of information as a possible cause of low popularity of self help groups among Russian substance users. *NIDA International Forum*. 2007. <http://international.drugabuse.gov/downloads/2007ForumAbstract.pdf>
- Maddux JF, Desmond DP. Relapse and recovery in substance abuse careers. *NIDA Res Monogr* 1986;72:49–71. [PubMed: 3099210]
- Magura S, Laudet A, Kang SY, Whitney SA. Effectiveness of comprehensive services for crack-dependent mothers with newborns and young children. *J Psychoactive Drugs* 1999;31(4):321–38. [PubMed: 10681100]
- Maisto SA, Clifford PR, Longabaugh R, Beattie M. The relationship between abstinence for one year following pretreatment assessment and alcohol use and other functioning at two years in individuals presenting for alcohol treatment. *J Stud Alcohol* 2002;63(4):397–403. [PubMed: 12160097]
- Maisto, SA.; McCollam, JB. The use of multiple measures of life health to assess alcohol treatment outcome: a review and critique. In: Sobell, MC.; Sobell, LC.; Ward, E., editors. *Evaluating alcohol and drug abuse treatment effectiveness: Recent advances*. New York: Pergamon; 1980. p. 15-76.
- Margolis R, Kilpatrick A, Mooney B. A retrospective look at long-term adolescent recovery: clinicians talk to researchers. *J Psychoactive Drugs* 2000;32(1):117–25. [PubMed: 10801073]
- McAweeney MJ, Zucker RA, Fitzgerald HE, Puttler LI, Wong MM. Individual and partner predictors of recovery from alcohol-use disorder over a nine-year interval: findings from a community sample of alcoholic married men. *J Stud Alcohol* 2005;66(2):220–8. [PubMed: 15957673]
- McElrath D. The Minnesota model. *Journal of Psychoactive Drugs* 1997;29(2):141–144. [PubMed: 9250939]
- McKay JR, McLellan AT, Alterman AI, Cacciola JS, Rutherford MJ, O'Brien CP. Predictors of participation in aftercare sessions and self-help groups following completion of intensive outpatient treatment for substance abuse. *J Stud Alcohol* 1998;59(2):152–62. [PubMed: 9500302]
- McKay JR, Merikle E, Mulvaney FD, Weiss RV, Koppenhaver JM. Factors accounting for cocaine use two years following initiation of continuing care. *Addiction* 2001;96(2):213–25. [PubMed: 11182866]
- McLellan AT, Chalk M, Bartlett J. Outcomes, performance, and quality: what's the difference? *J Subst Abuse Treat* 2007;32(4):331–40. [PubMed: 17481456]
- McLellan AT, Lewis DC, O'Brien CP, Kleber HD. Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. *JAMA* 2000;284(13):1689–95. [PubMed: 11015800]
- McLellan AT, McKay JR, Forman R, Cacciola J, Kemp J. Reconsidering the evaluation of addiction treatment: from retrospective follow-up to concurrent recovery monitoring. *Addiction* 2005;100(4):447–58. [PubMed: 15784059]
- McLellan AT, Meyers K. Contemporary addiction treatment: a review of systems problems for adults and adolescents. *Biol Psychiatry* 2004;56(10):764–70. [PubMed: 15556121]
- Miller, W.; Rollnick, S. *Motivational interviewing: Preparing people to change addictive behavior*. New York: Guilford Press; 1991.
- Miller, W.; Rollnick, S. *Motivational Interviewing: Preparing People for Change*. 2. New York: Guilford Press; 2002.
- Mojtabai R, Graff Zivin J. Effectiveness and Cost-effectiveness of Four Treatment Modalities for Substance Disorders: A Propensity Score Analysis. *Health Services Research* 2003;38(1):233–259. [PubMed: 12650390]

- Moos RH, Moos BS. Protective resources and long-term recovery from alcohol use disorders. *Drug Alcohol Depend* 2007;86(1):46–54. [PubMed: 16769181]
- Moos RH, Moos BS, Timko C. Gender, treatment and self-help in remission from alcohol use disorders. *Clin Med Res* 2006;4(3):163–74. [PubMed: 16988095]
- Morgan TJ, Morgenstern J, Blanchard KA, Labouvie E, Bux DA. Health-related quality of life for adults participating in outpatient substance abuse treatment. *Am J Addict* 2003;12(3):198–210. [PubMed: 12851016]
- Morgenstern J, Bux DA, Labouvie E, Morgan T, Blanchard KA, Muench F. Examining mechanisms of action in 12-Step community outpatient treatment. *Drug Alcohol Depend* 2003;72(3):237–47. [PubMed: 14643940]
- Morgenstern J, Labouvie E, McCrady BS, Kahler CW, Frey RM. Affiliation with Alcoholics Anonymous after treatment: a study of its therapeutic effects and mechanisms of action. *J Consult Clin Psychol* 1997;65(5):768–77. [PubMed: 9337496]
- Morgenstern, J.; McCrady, BS. Cognitive Processes and Change in Disease-Model Treatment. In: McCrady, BMWR., editor. *Research on Alcoholics Anonymous, Opportunities and Alternatives*. New Brunswick, NJ: Alcohol Research Documentation, Inc., Rutgers University; 1993. p. 153-166.
- National Institute on Alcohol Abuse and Alcoholism. A pocket guide to alcohol screening and brief intervention. 2005. [Web Page]. URL http://pubs.niaaa.nih.gov/publications/Practitioner/PocketGuide/pocket_guide.htm [2007, September 12]
- Preau M, Protopopescu C, Spire B, Dellamonica P, Poizot-Martin I, Villes V, Carrieri MP. [Health related quality of life among HIV-HCV co-infected patients]. *Rev Epidemiol Sante Publique* 2006;54(Spec No 1):1S33–1S43. [PubMed: 17073128]
- Project MATCH Research Group. Matching alcoholism treatments to client heterogeneity: Project MATCH posttreatment drinking outcomes. *Journal of Studies on Alcohol* 1997;58:7–29. [PubMed: 8979210]
- Reis, L.; Eisner, M.; Kosary, C.; Hankey, B.; Miller, B.; Clegg, L.; Edwards, B. *SEER Cancer Statistics Review, 1975--2000*. Bethesda, Maryland: National Cancer Institute; 2003.
- Rounsaville, BJ.; Carroll, KM. Interpersonal psychotherapy for drug users. In: Klerman, GL.; Weissman, MM., editors. *New Applications of Interpersonal Psychotherapy*. Washington, DC: American Psychiatric Association Press; 1993. p. 319-352.
- Rudolf H, Watts J. Quality of life in substance abuse and dependency. *International Review of Psychiatry* 2002;14:190–197.
- Scott CK, Dennis ML, Foss MA. Utilizing Recovery Management Checkups to shorten the cycle of relapse, treatment reentry, and recovery. *Drug Alcohol Depend* 2005;78(3):325–38. [PubMed: 15893164]
- Scott CK, Foss MA, Dennis ML. Pathways in the relapse--treatment--recovery cycle over 3 years. *J Subst Abuse Treat* 2005;28(Suppl 1):S63–72. [PubMed: 15797640]
- Simpson DD, Joe GW, Broome KM. A national 5-year follow-up of treatment outcomes for cocaine dependence. *Arch Gen Psychiatry* 2002;59(6):538–44. [PubMed: 12044196]
- Smith KW, Larson MJ. Quality of life assessments by adult substance abusers receiving publicly funded treatment in Massachusetts. *Am J Drug Alcohol Abuse* 2003;29(2):323–35. [PubMed: 12765209]
- Snow MG, Prochaska JO, Rossi JS. Processes of change in Alcoholics Anonymous: maintenance factors in long-term sobriety. *J Stud Alcohol* 1994;55(3):362–71. [PubMed: 8022185]
- Sobell LC, Klingemann HK, Toneatto T, Sobell MB, Agrawal S, Leo GI. Alcohol and drug abusers' perceived reasons for self-change in Canada and Switzerland: computer-assisted content analysis. *Subst Use Misuse* 2001;36(11):1467–500. [PubMed: 11693952]
- Stewart, RG.; Ware, LG. *The Medical Outcomes Study*. Santa Monica, CA: Rand Corporation Press; 1989.
- Substance Abuse and Mental Health Services Administration. Report No. NSDUH Series H-25, DHHS Publication No. SMA 04–3964). Rockville, MD: Office of Applied Studies; 2004.
- Teesson M, Ross J, Darke S, Lynskey M, Ali R, Ritter A, Cooke R. One year outcomes for heroin dependence: findings from the Australian Treatment Outcome Study (ATOS). *Drug Alcohol Depend* 2006;83(2):174–80. [PubMed: 16343809]

- Timko C, Billow R, DeBenedetti A. Determinants of 12-step group affiliation and moderators of the affiliation-abstinence relationship. *Drug Alcohol Depend* 2006;83(2):111–21. [PubMed: 16338102]
- Timko C, DeBenedetti A. A randomized controlled trial of intensive referral to 12-step self-help groups: One-year outcomes. *Drug Alcohol Depend* 2007;90(2–3):270–9. [PubMed: 17524574]
- Timko C, Finney JW, Moos RH, Moos BS. Short-term treatment careers and outcomes of previously untreated alcoholics. *J Stud Alcohol* 1995;56(6):597–610. [PubMed: 8558890]
- Timko C, Finney JW, Moos RH, Moos BS, Steinbaum DP. The process of treatment selection among previously untreated help-seeking problem drinkers. *J Subst Abuse* 1993;5(3):203–20. [PubMed: 8312728]
- Timko C, Moos RH, Finney JW, Lesar MD. Long-term outcomes of alcohol use disorders: comparing untreated individuals with those in alcoholics anonymous and formal treatment. *J Stud Alcohol* 2000;61(4):529–40. [PubMed: 10928723]
- Titus, J.; Dennis, M.; White, M.; Godley, S.; Tims, F.; Diamond, G. An examination of adolescents' reasons for starting, quitting, and continuing to use drugs and alcohol following treatment. 64th Annual Scientific Meeting of the College on Problems of Drug Dependence (CPDD); 2002.
- Toneatto T, Sobell LC, Sobell MB, Rubel E. Natural recovery from cocaine dependence. *Psychology of Addictive Behaviors* 1999;13(4):259–268.
- Tonigan JS, Toscova R, Miller WR. Meta-analysis of the literature on Alcoholics Anonymous: sample and study characteristics moderate findings. *J Stud Alcohol* 1996;57(1):65–72. [PubMed: 8747503]
- Toumbourou JW, Hamilton M, U'Ren A, Stevens-Jones P, Storey G. Narcotics Anonymous participation and changes in substance use and social support. *J Subst Abuse Treat* 2002;23(1):61–6. [PubMed: 12127470]
- Walsh DC, Hingson RW, Merrigan DM, Levenson SM, Cupples LA, Heeren T, Coffman GA, Becker CA, Barker TA, Hamilton SK, et al. A randomized trial of treatment options for alcohol-abusing workers. *N Engl J Med* 1991;325(11):775–82. [PubMed: 1870651]
- Weiss RD, Griffin ML, Gallop RJ, Najavits LM, Frank A, Crits-Christoph P, Thase ME, Blaine J, Gastfriend DR, Daley D, Luborsky L. The effect of 12-step self-help group attendance and participation on drug use outcomes among cocaine-dependent patients. *Drug Alcohol Depend* 2005;77(2):177–84. [PubMed: 15664719]
- White W, Boyle M, Loveland D. Alcoholism/Addiction as chronic disease: From rhetoric to clinical reality. *Alcoholism Treatment Quarterly* 2002;20:107–130.
- White, W.; Laudet, A. Life meaning as potential mediator of 12-step participation benefits on stable recovery from polysubstance use. 68th Annual Scientific Meeting of the College on Problems of Drug Dependence (CPDD); College on Problems of Drug Dependence. 2006.
- World Health Organization. Basic Documents. 35. Geneva, Switzerland: WHO; 1985.

Table 1

Recovery definition: Key themes from qualitative data analyses (N = 289)⁵ “How would you define recovery from drug and alcohol use?”⁶

Substance use-related definitions	43.0%
No use of any drug or alcohol	40.3
Controlled use of drugs and/or alcohol	3.7
Recovery as a new life	22%
Well-being	13%
A process of working on yourself	11.2%
Living life on life's terms (accept what comes)	9.6%
Self-improvement	9%
Learning to live drug free	8.3%
Recognition of the problem	5.4%
Getting help	5.1%

⁵Data initially presented in Laudet (2007).

⁶Answers add up to over 100% because up to three answers were coded for each participant.

Table 2

Reasons for attrition before completion from professional treatment in a sample of publicly funded outpatient clients
(N = 149)^{7,8}

Disliked an aspect of the agency (program, staff, other clients)	31%
Did not want help/not ready to stop using drugs	23%
Treatment interferes with responsibilities (e.g., work, school)	17%
Personal problems interfere with attending regular attendance	15%
Logistic reasons (location, moved to different neighborhood)	15%
Services were not helping	9%
Administratively discharged (breaking program rules) or arrested	6%

⁷The study's prospective cohort consisted of 278 clients; of those, 249 were interviewed after services ended (whether they completed or felt the program prior to completion); 40.2% (N = 100) completed services and 59.8 (N = 149) left before competing the planned duration of services.

⁸Answers add up to over 100% because up to three answers were coded for each participant.