The Meanings of Recovery From Addiction

Evolution and Promises

Nady el-Guebaly, MD

Objective: To review the evolution of the paradigm of recovery in addiction and its implications.

Method: A systematic literature review was conducted using the MEDLINE and PsychInfo databases over the past 10 years and key references from the retrieved literature.

Findings: The historical evolution of the concept of recovery has been shaped by several driving forces, including consumer experience, the need to better define our treatment outcome and parallel elaboration of the concepts of health, quality of life, and chronic disorders. Similarities and differences with the concept of "recovery" in mental health and other biomedical fields are identified.

The empirical basis is growing in support of various proposed attributions and features of recovery along with the temporal benchmarks involved. The various forms of recovery, such as "natural," "transformational," or "medication-assisted," describe a choice of pathways to a common goal.

The management implications are far-reaching and call for system shifts from acute stabilization to sustained recovery, including the growth of alternative institutions, and roles complementary to mutual help. Tools for the sustenance of recovery, including educational kits, recovery workbooks, and e-recovery initiatives, are developing.

Conclusions: Although first-person accounts of recovery abound, a more systematic empirical investigation of the concept has just begun, including demographic and cultural differences. Management implications are derived from the experience with other "mainstream" chronic disorders with treatment providing stabilization and initiation of recovery and a range of long-term resources becoming available to sustain it.

Key Words: addiction, recovery, substance abuse treatment

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"Recovery" is the commonly accepted goalpost for the treatment of chronic disorders, including addiction. Yet, we are often challenged to define that goal for our patients. A familiar course in substance-related or behavioral addictions involves repeated attempts at abstinence, supported by a range of therapeutic interventions, to be followed by yet another relapse. Despite our therapeutic urgings, our promoted anticipation of "recovery" does not seem to provide sufficient incentive to counteract the trappings of addiction, such as cravings or extended negative withdrawal symptoms and distorted expectations of early recovery, ranging from overconfidence to hopelessness. This literature review focuses on the history, definitions, and forms of recovery; proposed attributions and features; temporal benchmarks and implications for management.

From the Addiction Division, Department of Psychiatry, University of Calgary, Calgary, AB, Canada.

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Send correspondence and reprint requests to Nady el-Guebaly, MD, Foothills Medical Centre, 1403–29 ST NW, Calgary, AB T2N 2T9, Canada. E-mail: nady.el-guebaly@albertahealthservices.ca.

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METHODS

A systematic review of the English-speaking, peer-reviewed literature, over the past 10 years, was conducted using the key words "recovery from addiction." The databases searched were MEDLINE, PsychInfo, and OVID. The articles addressing general principles of recovery and those based on empirical data were selected. Articles describing specific treatment interventions were considered beyond this article's scope. Additional key references were then retrieved from the searched literature.

FINDINGS

History and Definitions of Recovery

Over the last 200 years, various terms have been associated with the resolution of severe alcohol and other drug problems based on conceptualizations of their etiology. These terms have included moral "reformation," religious "redemption," criminal "rehabilitation," or medical "recovery." Traditionally, in medicine, recovery has connoted a return to health after trauma or illness (White, 2005).

In 1939, Alcoholics Anonymous (AA) published "How more than one hundred men have recovered from alcoholism." Recovery was a central concept underpinning the ongoing cognitive, emotional, behavioral, and spiritual reconstruction of the sobered alcoholic (AA, 1939). Alcoholics Anonymous shifted an emphasis from recovery initiation (how to stop drinking) to recovery maintenance (how not to start drinking) and from chemical sobriety to "emotional sobriety" (Wilson, 1958). Sobriety is an important tenet of AA, as exemplified by their "sobriety birthdays," but its limitations as a sole feature

of recovery are also recognized by the terms "dry drunk" or "white knuckling" sobriety (White, 2007).

In 1982, the American Society of Addiction Medicine (ASAM) differentiated between recovery "a state of physical and psychological health, such as his/her abstinence from dependency-producing drug is complete and comfortable" and remission "freedom from the active signs and symptoms of alcoholism, including the use of substitute drugs during a period of independent living" (ASAM, 1982). American Society of Addiction Medicine's textbooks define *recovery* as "a process of overcoming both physical and psychological dependence on a psychoactive drug with a commitment to abstinence-based sobriety" (Ries et al., 2009; Steindler 1998). In the ASAM Patient Placement Criteria, recovery refers to "the overall goal of helping a patient to achieve overall health and well-being" (Mee-Lee et al., 2001).

More recent definitions of recovery have highlighted the experiential process involved: "recovery is the experience (a process and a sustained status) through which individuals, families, and communities impacted by severe alcohol and other drug (AOD) problems utilize internal and external resources to voluntarily resolve those problems, heal the wounds inflicted by AOD-related problems, actively manage their continued vulnerability to such problems, and develop a healthy, productive, and meaningful life" (White, 2007, p. 236).

A consensus panel convened by the Betty Ford Institute more succinctly defines *recovery* as a "voluntarily maintained lifestyle characterized by sobriety, personal health, and citizenship" (The Betty Ford Institute Consensus Panel, 2007). "Sobriety" refers to abstinence from alcohol and all other nonprescribed drugs. It is considered to be primary for a recovery lifestyle and may be divided into 3 phases, that is, early sobriety (1–11 months); sustained sobriety (1–5 years); and stable sobriety (5 years or more). Personal health refers to improved quality of personal life. Citizenship refers to living with regard and respect for those around you.

In a parallel development, Native American counselors have coined the term *wellbriety* to define recovery as sobriety plus global health or quality of life (QOL) (Coyhis, 1999).

An Overlap With the Concepts of Health, Quality of Life, and Chronic Disorders

The concept of recovery has evolved in tandem with the elaboration of the definitions of health, QOL, and chronic disorders. The National Institutes of Health now incorporates 3 domains into its working definition of health, that is, physical health (including functional symptoms), mental health (emotional distress, cognitive, and psychological functions), and social health (roles participation and social supports) (Reeve, 2007). The World Health Organization (WHO) defines *quality of health* as "an individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns." For the past 20 years, an international group has refined QOL's definitions and its measurements, thus influencing current definitions of recovery (WHOQOL group, 1998).

Personal health can be measured by validated person-centered, cross-culturally sensitive, multilingual instruments such as the physical and psychological health, independence, and spirituality domains of the WHOQOL 100 items or the briefer 26-item WHOQOL-Bref (The WHOQOL Group, 1994; Skevington et al., 2004). Citizenship can be measured by the social and environment domains of these WHOQOL scales (The Betty Ford Institute Consensus Panel, 2007). This "implies working toward the betterment of one's community" including the traditional "giving back."

The features of addiction as a chronic and progressive condition similar to other "mainstream" chronic illness are increasingly recognized to require continuing care incorporated as part of the process of recovery (McLellan et al., 2000; Dennis and Scott, 2007).

Recovery in Mental Health and Other Biomedical Fields

Although the concept of recovery in addiction predated the rise of a formal treatment network, in mental health and psychiatry, that concept emanated as a reaction to the perceived shortcomings of an established system of care and is defined somewhat differently (Chamberlain, 1978). The American Psychiatric Association endorses recovery of the severe and persistent mentally ill as "emphasizing a person's capacity to have hope and lead a meaningful life and suggesting that treatment can be guided by attention to life goals and ambitions. It recognizes that patients often feel powerless or disenfranchised, that these feelings can interfere with initiation and maintenance of mental health and medical care and that the best results come when patients feel that treatment decisions are made in ways that suit their cultural, spiritual, and personal ideals. It focuses on wellness and resilience and encourages patients to participate actively in their care, particularly by enabling them to help define the goals of psychopharmacologic and psychotherapeutic treatments" (American Psychiatric Association, 2005, para 1).

In both addiction and mental health fields, concepts of recovery have been shaped by consumer experience. Consumers recognize that process as individualized growth described by first-person accounts. They emphasize the importance of the role of the family and peer support in making a difference in their recovery. Both organized systems of care have been perceived as focusing on cyclical episodes of symptom manifestation and clinical stabilization and providing inadequate long-term services and supports for the maintenance of long-term recovery (Davidson and White, 2007). Of note, consumer advocacy in mental health thrived after the onset of deinstitutionalization without appropriately resourced community alternatives. The "learned helplessness" fostered in the asylums of old was replaced by the messages for hope and individual responsibility promoted in recovery (Mead and Copeland, 2000). Of interest, in the American Psychiatric Association's position, recovery targets only the severe and persistent mentally ill. A "cure" for the "majority" of mental health problems is promoted through treatment. The role of recovery in relation to formal treatment is outlined and the existence of a "partial recovery" is acknowledged. These features remain to be defined in the addiction field (Gagne et al., 2007).

In the rehabilitation of psychiatrically disabled individuals, a broader concept of social integration incorporates the capacity for connectedness and citizenship. Connectedness

refers to the construction and successful maintenance of reciprocal interpersonal relationships through social, moral, and emotional competencies. Citizenship refers to the rights and privileges enjoyed in a democratic society and the responsibilities these rights engender (Ware et al., 2007).

Psychiatric disorders also affect QOL and its measurements. A measurement overlap with depressive symptomatology has been demonstrated (Aigner et al., 2006). Other psychiatric disorders will undoubtedly influence one's perception of QOL and should be appropriately screened in an assessment of recovery from addiction.

Despite these divergences, both addiction and mental health fields are now challenged to design and implement "recovery-oriented systems of care," with commonalities outweighing the differences (Institute of Medicine, 2006; Davidson and White, 2007).

So far, the accomplishment attained in "recovery" has marginal social status and is associated with uneasy optimism compared to the public response in other biomedical fields to terms such as "cancer survivor" (Twombly, 2004). In the cancer field, prospective studies operationally defined "survivorship" as "living symptom-free for 5 years after a cancer diagnosis," which is associated with a significantly reduced risk for relapse. "Survival rates" are now tracked publicly, and the pink ribbon is a widespread public symbol of support for breast cancer survivors, including the need for early screening for the illness. Other chronic disorders also identify as benchmarks 5 years of continuous remission. Hence, the further importance of operationally defining addiction "recovery," its attributions, qualitative elements, and its temporal benchmarks.

The "Recovery Capital": Attributions, Qualitative Features, and Empirical Basis

Derived from the WHO Ottawa Charter, which defined *health* as "a resource for everyday life" (Breslow, 2006), the notion of "recovery capital" has been proposed, that is, the amount and quality of internal and external resources that one can bring to bear to initiate and sustain recovery from addiction (Granfield and Cloud, 2001).

Few studies have investigated attributions for recovery and its qualitative features. In surveys of former substance users about the prerequisite conditions for recovery, most would endorse total abstinence (Laudet, 2008). Initially, the research focus was also on length of stay in community-based programs as one of the best predictors of patient outcomes after discharge (Gerstein and Harwood, 1990). Additional building blocks of recovery have since been empirically identified. A 5-year national follow-up of 708 cocaine-dependent patients from 45 treatment programs in 8 US cities cited as major reasons for improvement: motivations to change, positive influences of family, strength from religion and spirituality, and help from lessons learned in treatment. "Recovery" was viewed as a continuous process and one that benefited from lessons learned in treatment (Flynn et al., 2003).

In the Pathways project, inner-city residents (N = 289) with resolved dependence on crack or heroin were interviewed yearly for 3 years. Most defined recovery as "total abstinence," but recovery was also experienced as a "bountiful" new life, an ongoing process of growth, self-change, and reclaiming of true self. These answers were a function of a number of individual characteristics, such as prior treatment exposure. More men than women defined *recovery* as a process and women more likely defined *recovery* as a new life. Ethnic differences were also recorded (Laudet, 2007). Five ingredients of recovery capital were then hypothesized, that is, social supports, spirituality, life meaning, religiousness/religiosity, and 12-step affiliation (Laudet et al., 2006). In that 3-year follow-up, spirituality independently contributed to 17% of the explained variance in QOL, while religiousness/religiosity did not emerge as a significant predictor. General social support accounted for 9.6% of the variance, and recovery support 7.3%. Life meaning contributed 5.6% of the variance, 12-step involvement accounted for only 3.5% of the variance, and frequency of AA meeting attendance accounted for none. Although the generalizability of this sample's findings is open to speculation, the survey provides a good blueprint for replication. Other internal and external resources must be assessed to obtain a more complete profile of the relevant factors and their relative importance in the "continuum" of recovery (Laudet and White, 2008). The endorsement of "total abstinence" as a personal definition of recovery was replicated in Australia (Laudet and Storey, 2006) and, to our knowledge, is commonly accepted in most parts of the world. Abstinence, however, is also regarded as a means to an end rather than an end in itself. The end is often stated as a "reclaiming of the self" that had been lost to addiction (White, 2008).

The Role of Spirituality

Is negotiating life's maze of disappointments, and burdens without the use of alcohol or other drugs facilitated by the development of a spiritual awakening? The 12-step fellowship advocates a belief in "something greater and more powerful" than oneself, be it the AA program, other people, or a higher power that may or may not involve belief in God. "Surrendering" an experience in humility is often challenging. Further in recovery, an individualized working relationship is established, often described as the "growth of a conscience," "a source of sustenance" to fill an inner void, the discovery of a valuable "meaning" to one's life or a preparation for an altruistic self (Green et al., 1998). Attempts to measure these subjective experiences have soared over the last decade, leading to potential diagnostic criteria for addiction, such as "loss of sense of purpose" or "moral qualms over consumption" (Galanter, 2007). Recently, an analysis utilizing a sample (N = 1726) from project MATCH found that AA attendance associated with better-alcohol outcomes was partially mediated by increases in spirituality (Kelly et al., 2011). A panel study of alcohol-dependent individuals (N = 364) recruited from 2 abstinence-based treatment centers, a moderate drinking program, and untreated individuals from the community reported that significant spiritual/religious change within 6 months predicted favorable drinking outcomes, even when controlling for AA involvement. The strongest predictors were increases in private spiritual/religious practices and forgiveness of self (Robinson et al., 2011).

Of note, most of this research is conducted within the context of a North American culture, where communities of

recovery have had a long and rich history (White, 2008). An associated cultural value is that of personal responsibility (McLellan et al., 2000). This may lead to a perception that the individual is essentially morally at fault for initiating the behaviors that lead to drug dependence, hence a need for forgiveness. Transcultural comparisons with different social and religious traditions are lacking.

Are There Temporal Benchmarks to Recovery?

It is difficult to define a set point for recovery in a chronic addictive process with a course characterized by ebbs and flows. Interludes of abstinence may or may not be mistaken for the start of enduring recovery. Empirical attempts have been made to determine threshold points for a significantly reduced risk of relapse. In 1970, the American Medical Association first included in its definition of recovery a requirement ranging from 3 to 5 years (American Medical Association Committee on Alcoholism and Drug Dependence, 1970).

In *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision*, course specifiers since the cessation of "dependence" identify "early remission" as the period 1 month to 1 year, to be followed by "sustained remission" after 12 months. The specifiers also differentiate between partial and full remission, based on the continued presence of one of the criteria or not. Recovery defined as "no current substance use disorder" requires consideration of the length of time since the last period of disturbance, the total duration of the disturbance, and the need for continued evaluation (American Psychiatric Association, 2000). For severe substance use disorders, recovery is considered not "stable," that is, a risk of future lifetime relapse less than 15%, until after 4 to 5 years of sustained abstinence (Finney and Moos, 1991; Vaillant, 1996; Flynn et al., 2003; Hser et al., 2001).

For many individuals, substance use leads to a chronic cycle of relapse, treatment reentry, and "recovery" often lasting for decades. Data from 1326 adult sequential admissions to 12 treatment facilities in Chicago, predominantly females (60%), African American (88%), and cocaine users (64%), identified that 83% of the participants transitioned one point in the cycle (community using—incarcerated—in treatment or community—not using) to another during the 3 years of the study (including 36% 2 times and 14% 3 times) (Scott et al., 2005). During the same period, 47% reached at least 12 months of abstinence. The median time from first to last use was 27 years and from first treatment episode to last use was 9 years. The years to recovery were significantly longer for those who were males, starting the use less than the age of 15 years, with 3 or more treatment episodes, and higher-mental distress. These data were viewed as further evidence of disorder chronicity (Dennis et al., 2005).

A sample of 113 patients (78% males) treated for alcoholism and examined retrospectively between their second year and tenth year posttreatment had a 9.5 times likelihood of death compared with matched community controls. Of the patients classified as remitted at the 2-year follow-up, 77% had the same outcome status when recontacted 8 years later. Older patients had more "stable" remissions than younger patients (Finney and Moos, 1991). The same research group in another 8-year follow-up of 466 problem drinkers admitted to a detox center (51% males) reported that individuals who received some type of help, that is, AA, formal treatment, or both, were more likely to be abstinent at 8 years than were untreated individuals, but there was little difference between types of help on long-term drinking outcomes (Timko et al., 2000).

A study of 116 adults with alcoholic use disorders and co-occurring severe mental illnesses followed prospectively for 10 years found a 6-month remission of alcoholic use disorders to be relatively durable and a source of improvement in multiple dimensions of adjustment (Xie et al., 2010).

Large national epidemiological surveys could also help investigate the prevalence and correlates of recovery. In the 2001 to 2002 National Epidemiological Survey on Alcohol and Related conditions, 4422 US adults aged 18 and older were classified as prior-to-past-year alcohol dependence. An analysis of their past-year recovery status elicited 25% still classified as "dependent," 27.3% in "partial remission," 11.8% were "asymptomatic risk drinkers," and 18.2% were abstainers. Only 25% of people with prior-to-past-year dependence ever received treatment. The odds of abstinent recovery increased with age and female sex but decreased with the presence of a personality disorder (Dawson et al., 2005).

Are There Various Forms of Recovery?

What about "natural recovery"? National US (Dawson, 1996) and Canadian (Sobell et al., 1996) surveys of alcohol use and "abuse" found that between 75% and 78% of the people who recovered from a previous "alcohol disorder" did so without receiving any treatment (Dawson, 1996; Sobell et al., 1996; Cunningham, 1999). A comparison of 83 "naturally recovered" defined as abstinent or with "nonhazardous drinking" for the 12 months before the interview were compared with 138 "hazardous problem drinkers." "Natural recovery" was associated with older age, marriage, lower levels of avoidant coping, higher self-esteem, less drinking peers, and lower frequency of intoxication (Russell et al., 2001). Clearly, a group at lesser risk! The lack of uniform inclusion criteria, that is, "abuse," "nonhazardous or hazardous use," or "dependence" is also an issue. A recent 16-year follow-up study noted that 60% of those achieving natural recovery, that is, remission without professional treatment or mutual aid, later experienced 1 or more relapses (Moos and Moos, 2006).

Is recovery always a process rather than an event? "Quantum or transformational" change is recorded in the clinical literature, often the product of a sudden event that is unplanned, positive, and permanent, and often involves profound religious, spiritual, or secular experiences that radically redefine a personal identity, interpersonal relationships, and prior pattern of substance use (White, 2004). The evidence remains largely anecdotal and derived from first-person accounts.

Are some addictions more liable to dispensation than others? The Betty Ford Panel "remained silent" on the use of tobacco in recovery, while recognizing the compelling public health evidence against its use (The Betty Ford Consensus Panel, 2007). Heavy coffee consumption at AA meetings and meals or behavioral dependencies, such as gambling or sexual acting out, is a common occurrence in early recovery and should not be discounted.

What about "medication-assisted" recovery? Professional and recovery advocacy organizations are increasingly recognizing the legitimacy of recovery of medically and socially stabilized patients on methadone and other medications (White and Coon, 2003). Alcoholics Anonymous recognizes that "some AA members must take prescribed medication in order to treat certain serious medical problems" (AA, 1984, p. 4). The Betty Ford Panel's consensus was "not to characterize the method by which recovery is attained" (The Betty Ford Institute Consensus Panel, 2007). Of significance is the motivation for medication and its impact as an adjunct to one's search for recovery. This can be determined by inquiring whether the medication incites or quells compulsive drug-seeking behavior, whether it enhances or inhibits broader dimensions of global health, and whether it increases or decreases the harm to individuals and their environment (White, 2007). The same enquiries could help assess the motivation behind occurrence or substitution of alternate compulsive behaviors as well.

A paradigm shift has also occurred in current therapeutic communities from the original "drug-free" approach to treatment, staffed mostly with recovering persons to a biopsychosocial approach staffed by mental health professionals and accommodating people with co-occurring mental disorders in need of psychotropic medication (Perfas and Spross, 2007).

Management Implications

In both addiction and mental health fields, the recovery paradigm has been anchored by consumer groups and serves as a beacon for those suffering from the chronic disorders involved. Several implications emerge from the evolution reviewed so far.

1. *Strategies for a chronic disorder*. With the rise of relative disease burden from chronic conditions, specific management strategies have been promoted (Weingarten et al., 2002). The WHO has mapped a Chronic Care Model with 4 interacting components, that is, self-management support involving patient education and training; decision support with availability of clinical practice guidelines and physician education; delivery system redesign to create practice teams specializing in chronic conditions; clinical information systems, including reminder systems for practice guidelines, feedback on physician adherence, and registries for planning individual and population-based care (Bodenheimer, 2003; Epping-Jordan et al., 2004).

Addiction recovery as a long-term and ongoing process does not have an end point. The statement "there is no such thing as graduating" is consistent with the prevalent view of addiction as a "chronic" condition (McLellan et al., 2000; Laudet, 2007; Ries et al., 2009) and is also consistent with reports that resolving addiction often takes multiple attempts and treatment episodes (Finney and Moos, 1991). A chronic disease has periods of remission and relapse, yet different views remain in the field as to the optimal management of relapse (defined as a return to drug use after a period of remission), ranging from treatment dismissal to an objective assessment of each relapse, including the opportunity for rehearsing acquired skills or acquiring new ones (Condon et al., 2011).

2. *System implications of a recovery paradigm*. The continuum of care involved requires programs to shift their focus from a model of acute biopsychosocial stabilization to a model of sustained recovery management, with "recovery-oriented stages of care." These stages of care start with pretreatment support services that strengthen the engagement and motivation process and remove environmental obstacles to recovery. In-treatment support services aim to enhance treatment retention and the acquisition of skills transferable to one's community. Posttreatment recovery management involves extended monitoring, use of incentives, and consequences for performance, recovery education and coaching, active linkages to communities of recovery, and early reintervention (White, 2008; McKay et al., 2009).

These "stages of care" can be the core of policy recommendations, and the bridge toward integrating addiction and mental health service systems (Davidson and White, 2007). In the United States, states like Connecticut (www.dmhas.state.ct.us/recovery.htm) and Arizona (azdhs.gov/bhs/bhsglance.pdf) have led that reformulation process (White, 2005, 2009) with the support of national bodies, such as the Institute of Medicine (2006).

To address the workforce needs of this new paradigm, recovery advocacy organizations and peer-based recovery support centers have expanded. New roles such as recovery coaches or personal recovery assistants have been created (White, 2005, 2008).

At the individual treatment level, a developmental model of recovery has been posited in psychotherapy, starting with the drinking and transition stages of recovery and followed by early and ongoing stages to facilitate contentment and meaning in recovery. Promoting a synergy with the AA experience is important (Brown, 1985). Similarly, the recovery context may need to be considered with longer pharmacotherapeutic trials and the reevaluation of current barriers to medication adoption in the field (Abraham et al., 2011).

Cost-effective continuum of care could be provided through a "stepped care" model. Individuals, for whom screening and brief motivational intervention would not be sufficient, would be "stepped up" to a more intensive form of treatment according to criteria such as the ASAM Patient Placement Criteria (Mee-Lee et al., 2001). After initiation of recovery, a "stepped down" process involving gradually less-intensive forms of care can be provided, along with acquisitions of new recovery ingredients (Humphreys and Tucker, 2002; McKay et al., 2009). The addition of behavioral contingencies has been shown to improve attendance and reduce drug use in an methadone maintenance treatment program, further facilitated by the addition of a computerized clinical tracking system (Brooner et al., 2004; King and Brooner, 2008). Promoting self-help group's involvement also appears to reduce the costs of continuing care (Humphreys and Moos, 2007). Instruments may be developed to gauge the degree to which programs implement recovery awareness and practices (O'Connell et al., 2005).

3. *The monitoring and sustenance of recovery*. Managing addiction as a chronic condition requires providing more assiduous protocols for continuing care (Dennis and Scott,

2007). The need for regular management checkups has been advocated. People assigned to regular management checkups are more likely to return to treatment sooner and receive more treatment. (Scott et al., 2005)

Sustenance of recovery can also be attained through attendance of various models of mutual help, that is, AA family, SMART recovery, or others (White, 2004); randomized urine testing, weekly initially, and then at lengthier intervals; journaling and daily readings, mostly based on relapse prevention strategies (Hazelden Foundation, 1992; Daley and Marlatt, 2006); use of contingencies for behavior (McKay et al., 2009); and e-health management.

Following the trend in other chronic disorders, technology-based initiatives have developed to improve outcomes and cost-effectiveness of the treatment and recovery fields. Such opportunities range from pilot trials involving telephone monitoring (Stanford et al., 2010) to broader advocacy strategies such as in Faces and Voices of Recovery (2006). Recently, Innovations for Recovery (2010) has proposed a menu of electronic options. They include a computer-based assessment with virtual reality training to hone coping skills and inform about trigger physical locations and "recovery friendly" activities; a biomonitoring patch to track levels of stress and trigger needed levels of support; a global cell phone positioning system to recognize entry into trigger locations; regular surveys on mobile cell phones to assess ongoing health status; on-demand counseling through video conferencing during crises; Web sites about online support groups and computer-animated counselors/avatars; a healthy event newsletter about positive events and activities through an individual's phone or handheld device. These service prompts provide the opportunity for continuing monitoring, but studies of their relative impact are at an early stage and mostly supplement a clinician-delivered encounter (Cucciare et al., 2009; Simpson et al., 2010).

An evaluation overhaul of addiction treatment from retrospective follow-up, typically of 6 to 12 months' duration to a concurrent recovery monitoring has been proposed (McLellan et al., 2005). Reasonable outcome expectations for successful treatment and initiation of recovery would be reduction in alcohol and drug use; increases in personal health; improvements in social function; and reductions in threats to public health and safety. Concurrent recovery monitoring would enhance the frequency of evaluation by the patient and clinician and measures would be displayed on a graph.

DISCUSSION

This literature overview highlights that definitions of recovery must contend with distinct uses of the term, including the lived experience by individuals and their families, the connecting tissue within communities of recovery, an outcome that can be measured by researchers, and an organizing vision and benchmark of accountability for complex service systems (White et al., 2007).

A consensual theoretical framework of addiction recovery remains to be elaborated, but major features of recovery emerge, including a healing and growth process spanning over years rather than weeks or months. The building blocks to achieve change for recovery involve the initial stepping stones of treatment, such as biopsychosocial stabilization, skills building, and relapse prevention, followed by a reconstructing journey ultimately aiming at discovering a meaning and purpose to one's life (McLellan et al., 2000; Dennis et al., 2005). While originally the goals of "abstinence" and "recovery" were used interchangeably, abstinence now emerges as significant means to an end but not the end itself. Of note, a complementary experiential knowledge base is emerging alongside the significant strides made investigating the neuroscientific aspects of the disease and effective professional interventions.

This understanding of recovery allows for the inclusion of several pathways, including the use of medically monitored medications, such as methadone, buprenorphine, naltrexone, disulfiram, or antidepressants. That recovery status is best evaluated in terms of the motivation for medication use and its effects (White, 2007). The concept of harm reduction or minimization aims to decrease the adverse health, social, and economic consequences of legal and illegal psychoactive drugs, without necessarily diminishing drug consumption. Methadone and buprenorphine maintenance treatments are considered examples of harm reduction. Joining such programs does not preclude, after an appropriate stabilization interval, renewed attempts to achieve a goal of recovery without the assistance of medication (Wodak, 2009). Despite extensive positive research, these strategies still elicit strong reactions among professional and recovery circles and influence public debate.

A definition of recovery in addiction includes personal characterological change. This is less highlighted in the recovery from other chronic health conditions. The ASAM definition of recovery conveys remission plus a broader transformation of personal character or identity enriching one's life with progress toward global health (ASAM, 1982). Recovery is not only about abstaining from drugs but also "about becoming a better person." The goal of "reclaiming one's self" may be somewhat idealized as features of one's past self may require change. Admitting to be a "grateful alcoholic" at an AA meeting conveys recognition of the renewed strength acquired from the survival from addiction and the personal transformations experienced through the recovery process (White and Kurtz, 2006).

This literature is, however, overwhelmingly arising from a North American culture shaped by the 12-step philosophy. Although the need for mutual help is a universally recognized phenomenon, mutual help traditions vary in many countries, in terms of autonomy from professional treatment, tradition of anonymity, and relative role of religion (el-Guebaly et al., 2011).

As addiction management is being redesigned from acute biopsychosocial stabilization to sustained recovery (McLellan et al., 2000; Dennis et al., 2005), the role for physicians needs to span all "recovery-oriented stages of care." They are part of the pretreatment support services through screening, brief intervention, and referral; during acute biopsychosocial management, they can prescribe appropriate medication and empirically proven interventions such as motivational interviewing and relapse prevention, along with other health

providers. At the posttreatment stage of recovery, primary care physicians or addiction specialists can provide systematic Recovery medical checkups (Mallin, 2011) facilitate the provision of health care resources based on a Stepped Care Model and laboratory monitoring and the use of contingencies. The premiere models for such a medical program are the Physician Health Programs (Dupont and Humphreys, 2011). A challenge for the field will be to manage the delicate balance between the services provided by treatment professionals and institutions that are regulated by licensing and accreditation standards and codes of ethics and the recovery relationships that have traditionally been reciprocal, noncommercialized, and potentially enduring. Mutual aid members providing "treatment" exceed the boundaries of their education and training, while "treatment" providing nothing, but mutual aid charge consumers a fee for what they could receive at no cost. Licensure and accreditation standards are evolving to accommodate the competencies required for the counselor's recovery role (White, 2008).

Last, the evolution and promises of the recovery paradigm requires the support of a strong research agenda. The goals of recovery must be explicitly defined and consensually accepted by the various stakeholders. This may reduce the variability in reported outcomes of addiction treatment and the persistent stigmatization of affected individuals. In retrospective studies, recall is an issue; in prospective studies, follow-up over a number of years may influence the outcome in itself. The investigation of variables such as sex, socioeconomic status, ethnicity, and type of drug use has just begun and so is the study of the different pathways and stages of long-term problem resolution.

The Betty Ford Institute Consensus Panel prioritized a number of research questions regarding effective continuing care, such as the optimal duration and frequency of extended monitoring, the non–substance-use variables involved, and the optimal use of contingencies for behavior (McKay et al., 2009). The panel also prioritized studying the optimal selection of continuing care participants in addition to "high-cost" patients and optimal staffing models and their competencies. Further clinical trials of the new electronic technologies and the effectiveness of practice guidelines for extended cost-effective monitoring and follow-up are also required.

Recovery also requires the design of optimal approaches to enlist a supportive network of family members, primary care providers, and the mutual help community. Each of these broad areas will undoubtedly generate additional questions for years to come.

In short, although the conceptualization of recovery remains complex and further investigations are required, it is also ushering a transformation of the goal of "addiction management" with treatment as a stepping-stone to recovery and a range of long-term resources needed to sustain it.

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