



Review Article

Narrative review: The Meaning of “Recovery” for Addiction Treatment and Research

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Abstract

Background

“Recovery” has been made the focus of UK drug policy. It is a term that means different things to different people and is difficult to operationalize. In this narrative review a discourse analysis was conducted on the use of the term “Recovery” and its many associated connotations in the literature on addiction treatment.

Key findings

“Recovery” has been most commonly equated with abstinence. It is also often associated with participation in 12-step fellowships. When used in this context, and increasingly as the word is used in academic literature, “recovery” goes beyond abstinence to incorporate transformation and growth in many areas of life. “Recovery” is neither a clearly defined state of being nor a single path or programmed. However, there is reasonable consensus on factors associated with or facilitating recovery. Social reintegration, stable housing, relationships, employment and a meaningful social role have long been recognized as key markers of good treatment outcomes and have recently been rebranded ‘recovery capital’.

Conclusion

Use of the term “recovery” involves an ideological shift, based on the limitations of professional treatment and the greater importance

of family and societal support. It is widely understood as a long-term process. Funding treatment services based on clients achieving “recovery” narrowly defined as abstinence from all drugs not only misses the broader meaning of “recovery” but potentially compromises the effectiveness of treatment in reducing harm from drug dependence.

Keywords: Addiction; Alcohol; Cocaine; Crack; Drugs; Heroin; Opioid; Recovery; Substance abuse; Treatment

Introduction

‘Recovery’ has become an increasingly important term in policy statements and research on addiction in the UK. For the previous decade, pragmatism dominated drug policy, with the main objectives of drug treatment including crime reduction [1], harm reduction in reducing blood borne viruses and creating stability in ongoing drug users. In 2010 the UK government published a new drug strategy which places “recovery” as the central aim of treatment [2]. ‘Recovery’, however, is a hard term to define and research papers often refer to differing meanings of the word [3]. “Recovery”, as a vague and distant ideology may provide inspiration for some individuals, but without defined operational criteria it is a difficult topic for empirical research [4]. This paper conducted a literature review to identify the current attempts at defining “recovery”, to provide an overview of the diverse ways in which the term “recovery” has been understood, helping to clarify its meaning and usage.

Methods

A comprehensive literature review of the Medline and Embase databases using Ovid was conducted from 2011 to August 2017. The following terms were searched for as keywords: “recovery” and “addiction” and “substance abuse”, “alcohol”, “drugs”, “cocaine”, “crack”, “opioid” or “heroin”. The terms “recovery” or “treatment” had to be included in the title to ensure that the concept of “recovery” was the focus of the article and minimize the number of articles which focused on outcomes of interventions. There were no language restrictions imposed, and the Ovid ‘human’ subjects filter was applied. 349 studies were identified in the initial search. The title and abstract of all studies were read for their suitability by two independent authors. Articles were included if they:

1. Defined recovery as an outcome measure
2. Described research conducted on alcohol or substance use disorders
3. Described research in human subjects.

Articles were excluded if they were not original research studies. Both qualitative and quantitative studies were accepted. Full text was obtained for the 122 studies. A qualitative assessment of these articles identified recurring themes for meanings and uses of the word “recovery”. These themes have been organized into subsets, which are outlined in the following section.

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Results

Different meanings of "Recovery"

Recovery as abstinence: There is a pervasive assumption that recovery is a state of sustained abstinence achieved by someone who has previously been dependent on a drug or drugs; the American public overwhelmingly believes that recovery is 'trying to stop using' alcohol or drugs [5]. Messages in the media refer to recovery exclusively in terms of substance use [5]. According to the American Society of Addiction Medicine [6], recovery includes "a commitment to abstinence-based sobriety". In the UK, individuals seeking treatment also often identify abstinence as their primary goal [7], and even the only change they hope to achieve [8]. In a recent survey, the majority of staff and clients in a treatment programmed in Australia were of the opinion that to remain in recovery means to remain abstinent from all drugs and alcohol [9]. In a multiple-choice survey, more than three quarters of individuals in America and Australia who self-identified as in recovery endorsed 'total abstinence' as their personal goal and definition of recovery [5,10].

However, among former addicts, there is considerable testimony that abstinence from drugs is not sufficient for recovery. This is well recognized in Alcoholics Anonymous (AA); 'A man who is on the wagon may be sober physically but mentally he may be almost as alcohol-minded as if he were drunk' [11]. Denzin [12,13], in an analysis of Alcoholics Anonymous notes, states that the key to recovery and sustained effective change is not merely abstinence, but rather a complete transformation of the self. Prolonged alcohol and drug misuse can lead to disruptions in functioning in almost all aspects of life [14,15]. Individuals often continue to face challenges relating to employment, housing and relationships [16] despite no longer using alcohol or drugs. Many report things 'are not going fast enough', meaning other areas of their lives were not improving as fast as they had hoped [17]. White [4] argues that the resolution of drug and alcohol problems is not the focal point but a by-product of a larger personal and interpersonal process of developing a healthy, productive and meaningful life.

Recovery as Moderation or Controlled Use of Drugs: Many individuals, especially those with mild-to-moderate substance dependence, manage to achieve moderated substance use [18,19].

The UK Drug Policy Commission Consensus Group defines "recovery" to mean "voluntary sustained control over substance use which maximizes health and wellbeing and participation in the rights, roles and responsibilities of society" [20]. Interviews with former heroin addicts in the UK who had been 4 years abstinent from heroin revealed that over half had since used alcohol, cannabis or crack cocaine, which they did not perceive to be inconsistent with their recovery [21]. This is consistent with the simple definition of "recovery" as a state in which drug abuse and related behavior are no longer problematic in life [22]. Although abstinence is always seen as an essential part of recovery through Alcoholics Anonymous, the Big Book comments 'if he can drink like a gentleman our hats are off to him' [23].

Recovery as health: Recovery as a medical term connotes return to health after illness or trauma [24]. WHO [25] conceptualizes health as a complete state of physical, mental and social well being and not merely the absence of disease? Three overarching principles emerge

in the most recent definitions of recovery: The freedom from dependence; restoration of health; and the contribution to society, where, through recovery people are able to live, work and learn to participate in their communities [20,26-28]. The focus is not only on the elimination of pathology (substance use) but on global health and quality of life, the same measures applied in other areas of chronic disease management. Many people with substance use problems (especially those who seek treatment) often have poor quality of life, and people with a poor quality of life are more vulnerable to substance use disorders [29,30].

The Centre for Substance Abuse Treatment [31] suggests the term 'remission' depicts the elimination of problems related to abuse or dependence, and 'recovery' conveys remission plus the achievement of global health.

Recovery as a process: Laudet and Storey [10] found overwhelmingly that individuals experience recovery not as an endpoint, but as a process of 'change and growth' in multiple areas of life. Metaphors of recovery often involve 'steps' or 'pathways' and recovery is seen as a process in common usage and in professional and mutual aid circles [4].

The Oxford English Dictionary [32] defines recovery as a process of retrieval or return to a previous state. This implies something of value, lost through addiction, can be regained. In response to open-ended questions, recovering individuals describe recovery as a process of regaining an identity lost in addiction: 'Recovery is going back to me'; 'I was never born with a drink in my mouth' [33]. For individuals such as the Alcoholics Anonymous founders who typically were professional men who previously 'had a life' (job, family, reputation) and lost much of it to alcohol, this makes sense. However, defining recovery as a process of regaining oneself may be inappropriate for individuals who come from marginalized and disadvantaged backgrounds. Many of the clients presenting to treatment programmers have little positive to recover [5]. A survivor of childhood sexual abuse states, 'recovery implies you return to something you were before the illness, but I have no before' [34]. This has led some writers to suggest that 'recovery' may be better understood as recovering the lost opportunity of becoming what they were meant to be before they started using drugs and alcohol [4]. Such a conception involves elements of psychological growth, healing, self-redefinition and recognition of the need for change and transformation [21,35]. The latter is often triggered by one or more 'rock-bottom' events which reveal the unacceptable extent to which their identity has been damaged by addiction [36].

Recovery as affiliation with self-help groups: Religious and spiritual affiliation, such as 12-step fellowships, emphasizes recovery through the growth of spiritual awareness. It is an aim in the 12-steps models of recovery to help individuals undergo a profound personality change [37], a 'transformation of the self' [12]. Involvement in religious and self-help groups in the community consistently shows a modest positive relationship with abstinence [38-40]. Religious and spiritual factors have been said to be amongst the three most important factors in recovering from heroin use in Glasgow [21,41] and are rated more important as time in recovery increases [9]. However, many individuals entering addiction treatment

show lower levels of spiritual or religious involvement relative to the general population. Some report that the ideological base of self-help programmers is inconsistent with their own life philosophies [42,43].

Factors facilitating recovery

Despite the diverse elements that have been identified as constituting "recovery", and the various paths by which it may be reached, there is rather more agreement over the factors which facilitate recovery, or indicate that it is occurring. Recovering individuals report that there is a distinction between negative factors (adverse consequences of drug dependence), which are important in initiating change, and positive factors, which help to maintain change [44,45]. As people address their substance abuse there is an initial focus almost entirely on staying abstinent, but the longer an individual is in recovery the less important abstinence and more important other components become [9,46]. Non-abstinence factors include employment, education, family reunification, emotional health, physical health and spirituality. McLellan and colleagues [47] argue that the immediate focus of reducing substance intake is necessary, but once this foundation is established, individuals can concentrate on living a 'normal life'. Best and co [21] found that a group of successfully recovered former heroin and alcohol users within completely different contexts all highlighted similar non-abstinence factors as crucial in their recovery.

Complexity and heterogeneity make "recovery" a difficult phenomenon to measure. Granfield and Cloud [42] have attempted to capture the individuality and yet commonalities in recovery journeys by coining the term 'recovery capital'. Recovery capital comprises the internal and external resources that can be drawn upon to initiate, sustain and maintain recovery from alcohol and drugs problems [48,49]. It does not wholly reside within the individual, but in varying degrees at different times in individuals, families and communities [50]. Recovery capital is said to accumulate with time spent abstinent and is essential for sustained recovery [51-53]. Subsequently, quality of life and life satisfaction increase linearly with time in "recovery" [17,54]. Laudet [33] created a composite measure of recovery capital by combining measures of social support, spirituality, meaning, and religiousness factors and 12-steps affiliation and reported that this composite score accounted for 60.6 % of the variance in quality of life.

Internal recovery resources: Granfield and Cloud [42] sub-categories 'recovery capital' broadly into social, human and cultural capital. Human capital refers to the internal resources such as personal health, self-efficacy, confidence and more broadly, personal development and growth [49]. The inclusion of 'voluntary lifestyle' and 'voluntary control over substance use' in definitions of recovery highlights the importance of volition in the recovery process, which is compromised in addiction but can be recovered [55]. Motivation for change and coping skills to deal with temptations and stress, are protective in recovery [42,56]. Self-efficacy and psychological wellbeing predicted abstinence in heroin users [57]. Finding a sustained source of hope, inspiration and self-esteem in fundamentalist religion or the Alcoholics Anonymous 12-step programmed predicted abstinence in former drinkers [58]. Changes in psychological resources including interpersonal skills, life coping skills and personal identity are among the key predictors of long-term development, transformation and desistance from offending. Ability to visualize an alternative and more desirable and feasible future

alongside a desire and determination to restore a spoiled identity is what distinguished successful from unsuccessful recovering heroin users. This concept of a 'spoiled identity' was central to a successful recovery strategy, most importantly being able to reflect upon their drug-using identity and its negative consequences. On the other hand, those who attempted to stop using purely for the sake of others were less likely to be successful [36].

Kaskutas et al., [59] investigated the importance of specific internal elements to those in recovery when describing their own personal definition of 'recovery'. Popular elements included "Handling negative feelings without drinking or using drugs like I used to", "Taking responsibility for the things I can change" and "Being honest with myself", signifying a strong concordance between the personal significance of these resources and their proven utility in the recovery process.

External recovery resources: External resources in recovery include emotional and social support from friends, family, peers, community, spirituality and faith. Individuals develop their identity within a social context, and many severe and prolonged substance abusers migrate towards substance-using cultures, influencing access and attitudes towards drugs, and intensifying the associated problems [60]. Recovery involves social re-integration; disengagement from one culture and entry into another [61]. Supportive relationships with peers, families and communities are critical for ongoing recovery as virtually all outcomes of interest are affected by the social networks in which individuals are embedded [17,62].

Other external resources include housing, employment, education, training, and volunteering. Substance misuse can increase the risk of homelessness [63]. Residential instability in turn can increase substance misuse, lead to treatment re-administration and represent significant obstacles to social reintegration [64,65]. Employment increases legitimate income and can improve standards of living with better access to housing, food and leisure [42,66]. Education, employment and housing are also reported as important priorities at all stages of recovery [16,41]. Secure accommodation is associated with reduced substance use, fewer arrests, less crime and increased likelihood of obtaining permanent housing and employment [67-70].

Engagement in meaningful activities is protective against relapse [42] and is the single most powerful predictor of quality of life and improved day-to-day functioning amongst those in recovery. Those involved in activities that are meaningful report being happier, less anxious or depressed, having a greater sense of self-esteem and self-efficacy and fewer health symptoms [7,71,72]. As individuals engage with the community they can build social networks, which facilitates the transition between social groups.

Medication-assisted recovery: In the US, the concept of "Medication-Assisted Recovery" has been an attempt to promote access to self-help movements for people receiving methadone. This inclusive approach involves bridging the traditional ideological divide between abstinence-oriented and maintenance-oriented treatment, and reducing the stigma associated with opioid substitution treatment. Two decades ago, with self-help fellowships the centrality of abstinence from all drugs extended to rejection of use of methadone for heroin addiction. In the US few individuals previously considered those maintained on methadone to be 'in recovery' [73]. Narcotics Anonymous (NA) meetings, although

inclusive of those still using or on 'drug replacement therapy', could withhold the right of these participants to speak at meetings so to not confuse the message of 'recovery' being centered on total abstinence [74]. Similarly, SMART Recovery (Self-management and Recovery Training) works on fostering a mutual-aid group environment and does not incorporate medication management into their vision of recovery, although they do support the appropriate use of prescribed addiction medication [75]. However, denying medically and socially stabilized methadone patients the status of "recovery" can have undesirable and stigmatizing consequences [76], as well as denying users the benefit of the long-term community support which self-help fellowships offer. The central argument has been that it is not the use of a specific medication, but rather the motivation and setting for using the drug which determines whether a person is in recovery [4]. Abstinence may be an unattainable goal for some using medication [21].

In the US, the legitimacy of opioid substitution treatment has been recognized by professional and advocacy organizations [73]. Likewise, with the shift in UK drug strategy towards recovery-orientated treatment goals, the UK government clearly recognizes opioid substitution treatment as an important facilitator in a patient's recovery process [77]. To address the objectives of the 2010 UK Drug Strategy, an expert working group published The 'Recovery Orientated Drug Treatment' report which acknowledges the well-documented reduction in harm associated with remaining in treatment [78]. The report also recognizing its limitations, namely the risk of drifting in to long-term medication-assisted treatment. To address this, it is suggested that treatment should be delivered in a dynamic and personalized way within the framework of a four-step recovery journey [79]. Importantly, medication-assisted recovery should function as a means of stabilizing patients so that they may build recovery capital [80].

Conclusion

Defining "Recovery"

In common usage, "recovery" is a state-usually abstinence, sometimes controlled drug use, sometimes improved health and well-being. "Recovery" also refers to a process, commonly involving affiliation with self-help fellowships and involving a change in outlook and relationships as well as social reintegration, a process sometimes conceptualized as rebirth [10].

White has proposed that any definition of recovery should avoid restricting the framework to a particular strategy or style [4]. Individuals differ in vulnerability, drug exposure, motivations and circumstances, making a unitary concept of recovery difficult. Some individuals require extensive professional treatment or medication, and others no assistance at all aside their own volition [65,81]. Recovery can be part of a drift minimally impacting life or result from a sudden and permanent quantum change [82-84].

More than 30 years ago McLellan and colleagues developed the Addiction Severity Index (ASI) [85], a multi-domain instrument by which to assess both the severity of an individual's problems, and their need for assistance in treatment settings. The domains of the ASI-medical, employment, alcohol use, drug use, legal, family and psychological-differ little from the domains of life now referred to as "recovery capital".

What has changed since the ASI was developed has been an increasing recognition of the limits of professional treatment-whether drug free or opioid substitution treatment. The ASI was developed as a treatment tool, but the important implication of the literature of the last decade is that "recovery" should not be thought of primarily in relation to formal treatment services-rather, recovery in its many manifestations occurs in the community [65]. White [50] proposes that 'destabilization of addiction' and 'recovery initiation', can occur within an artificial environment, but 'recovery maintenance' can only be fully achieved within a natural environment.

Measuring "Recovery"

In the UK "recovery" has acquired salience when it was placed at the centre of drug policy in 2010 [20]. Measures of the quality and effectiveness of recovery services have been based predominantly in a short-term outcomes framework. For example, one measure of effectiveness in early pilots of "Payment by results" was "Discharged from treatment successfully (free of drug (s) of dependence) and do not re-present in either the treatment system or in the criminal justice system in the following 12 months" [86]. Although there has been a clear shift in UK drug policy away from the notion of abstinence, the emphasis on evidence-based healthcare and the primacy accorded to randomized trials of interventions in evaluating evidence means that most treatment studies cover relatively short time periods [87]. This skews our evidence base towards short-term outcomes of structured interventions, however short-term abstinence is poorly predictive of long-term remission [88].

Vulnerability to relapse is ongoing, and recovery is best understood as a long-term undertaking [4]. Treatment studies should thus reflect this, incorporating longer follow-up periods and assessment of the many quantitative and qualitative domains as discussed in this review to more accurately capture the individual and heterogeneous experience of recovery. This in turn can inform treatment programmers and support services on which aspects of recovery they should be focusing that are relevant to recovering individuals [59]. Many individuals themselves feel recovery is endless, describing themselves as 'recovering' as opposed to 'being recovered' and that 'there is no such thing as graduating' [5]. It is questionable whether the available research can inform the complex processes of stability and change over a life course [89].

References

1. Duke K (2006) Out of crime and into treatment?: The criminalization of contemporary drug policy since *Tackling Drugs Together*. *Drugs: Education, Prevention and Policy* 13: 409-415.
2. HM Government (2010) Drug Strategy 2010: Reducing demand, restricting supply, building recovery: Supporting people to live a drug free life. HM Government. London, UK.
3. White WL (2011) The emerging UK recovery movement. *Journal of Groups in Addiction & Recovery* 6: 5-6.
4. White WL (2007) Addiction recovery: Its definition and conceptual boundaries. *J Subst Abuse Treat* 33: 229-241.
5. Laudet AB1 (2007) What does recovery mean to you? Lessons from the recovery experience for research and practice. *J Subst Abuse Treat* 33: 243-256.

6. Shulman GD, Mee-Lee D (2001) ASAM Patient placement criteria for the treatment of substance-related disorders, (2nd edn). American Society of Addiction Medicine, Chevy Chase, Maryland, United States.
7. Best D, Savic M, Beckwith M, Honor S, Karpusheff J, et al. (2013) The role of abstinence and activity in the quality of life of drug users engaged in treatment. *Journal of Substance Abuse Treatment* 45: 273-279.
8. McKeganey N, Morris Z, Neale J, Robertson M (2004) What are drug users looking for when they contact drug services: abstinence or harm reduction? *Drugs: Education, Prevention, and Policy* 11: 423-435.
9. Maffina L, Deane FP, Lyons GC, Crowe TP, Kelly PJ (2013) Relative importance of abstinence in client's and clinician's perspectives of recovery from drug and alcohol abuse. *Subst Use Misuse* 48: 683-690.
10. Laudet AB, Storey GR (2006) A comparison of the recovery experience in the US and Australia: Toward identifying 'universal' and culture-specific processes. *Education (years)* 12: 10-3.
11. Peabody RR (1937) *The common sense of drinking*. Little, Brown, and Company, Boston, Massachusetts, USA.
12. Denzin NK (1987) *The recovering alcoholic*. Sage Publications, Thousand Oaks, California, USA.
13. Denzin NK (1987) *The alcoholic self*. Sage Publications, Thousand Oaks, California, USA.
14. APA (2000) *DSM-IV-TR: Diagnostic and statistical manual of mental disorders*, (4th edn). American Psychiatric Association, Lake St. Louis, Missouri, USA.
15. Maisto SA, Connors GJ, Tucker JA, McCollam JB, Adesso VJ (1980) Validation of the sensation scale, a measure of subjective physiological responses to alcohol. *Behav Res Ther* 18: 37-43.
16. Laudet AB, White W (2010) What are your priorities right now? Identifying service needs across recovery stages to inform service development. *J Subst Abuse Treat* 38: 51-59.
17. Laudet AB, Morgen K, White WL (2006) 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* 24: 33-73.
18. Miller WR, Muñoz RF (2013) *Controlling your drinking: Tools to make moderation work for you*. Guilford Press, New York, USA.
19. Rosenberg H (1993) Prediction of controlled drinking by alcoholics and problem drinkers. *Psychol Bull* 113: 129-139.
20. Group UDUCC (2007) *Developing a vision of recovery: A work in progress*. UK Drug Policy Commission, London, UK.
21. Best DW, Groshkova T, Sadler J, Day Ed, White WL (2011) What is recovery? Functioning and recovery stories of self-identified people in recovery in a services user group and their peer networks in Birmingham England. *Alcoholism Treatment Quarterly* 29: 293-313.
22. Tims FM, Leukefeld CG, National Institute on Drug Abuse (1986) *Relapse and recovery in drug abuse*. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, North Bethesda, Maryland, USA.
23. Bill W (1955) *Alcoholics Anonymous: The story of how more than one hundred men have recovered from alcoholism*, (2nd edn). Alcoholics Anonymous, Works Publishing Company, New York City, USA.
24. White WL (2008) *Recovery management and recovery-oriented systems of care: Scientific rationale and promising practices*. Northeast Addiction Technology Transfer Center, Philadelphia, USA.
25. World Health Organization (1985) *Basic Documents*, 35. WHO, Geneva, Switzerland.
26. Home Office (2008) *Drugs: Protecting families and communities*. Home Office, Great Britain, UK.
27. Scottish Government (2008) *The road to recovery: A new approach to tackling Scotland's drug problem*. Scottish Executive, Scotland.
28. Betty Ford Institute Consensus Panel (2007) What is recovery? A working definition from the Betty Ford Institute. *J Subst Abuse Treat* 33: 221-228.
29. Donovan D, Mattson ME, Cisler RA, Longabaugh R, Zweben A (2005) Quality of life as an outcome measure in alcoholism treatment research. *J Stud Alcohol Suppl* 15: 119-139.
30. Foster JH, Powell JE, Marshall EJ, Peters TJ (1999) Quality of life in alcohol-dependent subjects—a review. *Qual Life Res* 8: 255-261.
31. U.S. Department of Health and Human Services (2006) *Screening, assessment, and treatment planning for persons with co-occurring disorders*. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, Center for Substance Abuse Treatment, Rockville, USA.
32. Bongarzone ER, Pasquini JM, Soto EF (1995) Oxidative damage to proteins and lipids of CNS myelin produced by *in vitro* generated reactive oxygen species. *J Neurosci Res* 41: 213-221.
33. Laudet AB (2008) 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. *Subst Use Misuse* 43: 2001-2020.
34. Ralph RO (2000) *Recovery*. *Journal of Psychiatric Rehabilitation Skills* 4: 480-517.
35. Best D, Laudet AB (2010) *The potential of recovery capital*. RSA, London.
36. McIntosh J, McKeganey N (2002) *Beating the dragon*. Prentice Hall, Harlow, UK.
37. Streifel C, Servaty-Seib HL (2009) Recovering from alcohol and other drug dependency: Loss and spirituality in a 12-step context. *Alcoholism Treatment Quarterly* 27: 184-198.
38. McCrady BS, Miller WR (1993) *Research on alcoholics anonymous: Opportunities and alternatives*. Rutgers Center of Alcohol Studies, New Jersey, USA.
39. Project MATCH Research Group (1998) Matching alcoholism treatments to client heterogeneity: Treatment main effects and matching effects on drinking during treatment. *J Stud Alcohol* 59: 631-639.
40. Nowinski J, Baker S, Carroll KM (1992) *Twelve step facilitation therapy manual: A clinical research guide for therapists treating individuals with alcohol abuse and dependence*. US Dept of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Alcohol Abuse and Alcoholism, Rockville, USA.
41. Best DW, Ghufuran S, Day E, Ray R, Loaring J (2008) Breaking the habit: a retrospective analysis of desistance factors among formerly problematic heroin users. *Drug Alcohol Rev* 27: 619-624.
42. Granfield R, Cloud W (2001) Social context and "natural recovery": the role of social capital in the resolution of drug-associated problems. *Subst Use Misuse* 36: 1543-1570.
43. Laudet AB (2003) Attitudes and beliefs about 12-step groups among addiction treatment clients and clinicians: Toward identifying obstacles to participation. *Subst Use Misuse* 38: 2017-2047.
44. Humphreys K, Moos RH, Cohen C (1997) Social and community resources and long-term recovery from treated and untreated alcoholism. *J Stud Alcohol* 58: 231-238.

45. Snow MG, Prochaska JO, Rossi JS (1994) Processes of change in Alcoholics Anonymous: maintenance factors in long-term sobriety. *J Stud Alcohol* 55: 362-371.
46. Margolis R, Kilpatrick A, Mooney B (2000) A retrospective look at long-term adolescent recovery: clinicians talk to researchers. *J Psychoactive Drugs* 32: 117-125.
47. McLellan AT, McKay JR, Forman R, Cacciola J, Kemp J (2005) Reconsidering the evaluation of addiction treatment: from retrospective follow-up to concurrent recovery monitoring. *Addiction* 100: 447-458.
48. Cloud W, Granfield R (2008) Conceptualizing recovery capital: expansion of a theoretical construct. *Subst Use Misuse* 43: 1971-1986.
49. White W, Cloud W (2008) Recovery capital: A primer for addiction professionals. *Counselor* 9: 22-27.
50. White WL (2009) The mobilization of community resources to support long-term addiction recovery. *J Subst Abuse Treat* 36: 146-158.
51. Dennis ML, Scott CK, Funk R, Foss MA (2005) The duration and correlates of addiction and treatment careers. *J Subst Abuse Treat* 28: 51-62.
52. Lyons T, Lurigio AJ (2010) The role of recovery capital in the community re-entry of prisoners with substance use disorders. *Journal of Offender Rehabilitation* 49: 445-455.
53. Van Melick M, McCartney D, Best D (2013) On-going recovery support and peer networks: a preliminary investigation of recovery peer supporters and their peers. *Journal of Groups in Addiction & Recovery* 8: 185-199.
54. Hibbert LJ, Best DW (2011) Assessing recovery and functioning in former problem drinkers at different stages of their recovery journeys. *Drug Alcohol Rev* 30: 12-20.
55. Smith J (1999) Commentary: Alcoholism and free will. *Psychiatric Times*, Baltimore, Maryland, USA.
56. Laudet AB, White WL (2008) Recovery capital as prospective predictor of sustained recovery, life satisfaction, and stress among former poly-substance users. *Subst Use Misuse* 43: 27-54.
57. Hser YI, Longshore D, Anglin MD (2007) The life course perspective on drug use: a conceptual framework for understanding drug use trajectories. *Eval Rev* 31: 515-547.
58. Vaillant GE (1983) *The natural history of alcoholism*. Harvard University Press, Cambridge, USA.
59. Kaskutas LA, Borkman TJ, Laudet A, Ritter LA, Witbrodt J, et al. (2014) Elements that define recovery: the experiential perspective. *J Stud Alcohol Drugs* 75: 999-1010.
60. Buchanan AS, Latkin CA (2008) Drug use in the social networks of heroin and cocaine users before and after drug cessation. *Drug Alcohol Depend* 96: 286-289.
61. White W (1996) *Pathways from the culture of addiction to the culture of recovery: A travel guide for addiction professionals, (2nd edn)*. Hazelden, Minnesota, USA.
62. Longabaugh R, Beattie M, Noel N, Stout R, Malloy P (1993) The effect of social investment on treatment outcome. *J Stud Alcohol* 54: 465-478.
63. Lowe J, Gibson S (2011) Reflections of a homeless population's lived experience with substance abuse. *J Community Health Nurs* 28: 92-104.
64. Callaghan RC, Cunningham JA (2002) Intravenous and non-intravenous cocaine abusers admitted to inpatient detoxification treatment: a 3-year medical-chart review of patient characteristics and predictors of treatment re-admission. *Drug Alcohol Depend* 68: 323-328.
65. Groshkova T, Best D (2011) The evolution of a UK evidence base for substance misuse recovery. *Journal of Groups in Addiction & Recovery* 6: 20-37.
66. Laudet AB, Becker JB, White WL (2009) Don't wanna go through that madness no more: quality of life satisfaction as predictor of sustained remission from illicit drug misuse. *Subst Use Misuse* 44: 227-252.
67. Fisk D, Sells D, Rowe M (2007) Sober housing and motivational interviewing: The treatment access project. *J Prim Prev* 28: 281-93.
68. Laub JH, Sampson RJ (2003) *Shared beginnings, divergent lives: Delinquent boys to age 70*. Harvard University Press, Cambridge, USA.
69. Majer JM, Jason LA, Ferrari JR, Miller SA (2011) 12-Step involvement among a U.S. national sample of Oxford House residents. *J Subst Abuse Treat* 41: 37-44.
70. Polcin DL (2009) A model for sober housing during outpatient treatment. *J Psychoactive Drugs* 41: 153-161.
71. Best D, Gow J, Knox T, Taylor A, Groshkova T, et al. (2012) Mapping the recovery stories of drinkers and drug users in Glasgow: Quality of life and its associations with measures of recovery capital. *Drug Alcohol Rev* 31: 334-341.
72. Best D, Honor S, Karpusheff J, Loudon L, Hall R, et al. (2012) Well-being and recovery functioning among substance users engaged in post-treatment recovery support groups. *Alcoholism Treatment Quarterly* 30: 397-406.
73. White W, Coon B (2003) Methadone and the anti-medication bias in addiction treatment. *Counselor* 4: 58-63.
74. NAWS (1996) *Regarding methadone and other drug replacement programs*. Narcotics Anonymous, New Jersey, USA.
75. Horvath, A, Yeterian J (2012) SMART recovery: Self-empowering, science-based addiction recovery support. *Journal of Groups in Addiction & Recovery* 7: 102-117.
76. Murphy S, Irwin J (1992) "Living with the dirty secret": Problems of disclosure for methadone maintenance clients. *J Psychoactive Drugs* 24: 257-264.
77. McKeganey N, Russell C, Cockayne L (2013) Medically assisted recovery from opiate dependence within the context of the UK drug strategy: Methadone and Suboxone (buprenorphine-naloxone) patients compared. *J Subst Abuse Treat* 44: 97-102.
78. Hickman M, Vickerman P, Robertson R, Macleod J, Strang J (2011) Promoting recovery and preventing drug-related mortality: competing risks? *J Public Health (Oxf)* 33: 332-334.
79. Strang J (2011) *Recovery-Orientated drug treatment: An interim report by professor john strang, chair of the expert group*. National Treatment Agency for Substance Misuse 1-10.
80. Nutt DJ (2015) Considerations on the role of buprenorphine in recovery from heroin addiction from a UK perspective. *J Psychopharmacol* 29: 43-49.
81. Humphreys K, Wing S, McCarty D, Chappel J, Gallant L, et al. (2004) Self-help organizations for alcohol and drug problems: Toward evidence-based practice and policy. *J Subst Abuse Treat* 26: 151-158.
82. Matza D (1964) *Delinquency and drift*. Transaction Publishers, New Jersey, USA.
83. Miller WR, C'de Baca J (2001) *Quantum change: When epiphanies and sudden insights transform ordinary lives*. Guilford Press, New York, USA.

84. Waldorf D (1983) Natural recovery from opiate addiction-some social-psychological processes of untreated recovery. *J Drug Issues* 13: 237-280.
85. McLellan AT, Luborsky L, Woody GE, O'Brien CP (1980) An improved diagnostic evaluation instrument for substance abuse patients. The Addiction Severity Index. *J Nerv Ment Dis* 168: 26-33.
86. Department of Health (2011) Performance of Payment by Results pilot areas: April 2012 to February 2013. Department of Health, London, UK.
87. Morgan OJ (1995) Extended length sobriety: The missing variable. *Alcoholism Treatment Quarterly* 12: 59-71.
88. Moos RH (2007) Theory-based processes that promote the remission of substance use disorders. *Clin Psychol Rev* 27: 537-551.
89. Groshkova T, Best D, White W (2013) The assessment of recovery capital: Properties and psychometrics of a measure of addiction recovery strengths. *Drug Alcohol Rev* 32: 187-194.