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## Utility or futility? Toward an operational definition of addiction 'recovery'

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### ABSTRACT

The 'recovery' construct has received growing scrutiny over the past 20 years as individuals and organizations have tried to define what 'recovery' is, or should contain, as something distinct from remission. Yet, despite goals to improve definitional clarity and utility, confusion has persisted hindering attainment of objective epidemiological recovery prevalence rates, as well as its utility as a helpful decision tool in important legal and social determinations (e.g. child custody). We argue that the basis for confusion lies in four major areas: 1. Whether we are talking about an objective vs subjective definition; 2. What elements should be included in an operational definition at what threshold for what duration; and, whether abstinence or remission should be the basis - or even part - of a such a definition; 3. Whether we are describing recovery as a process vs a categorical endpoint ('in recovery' vs 'not in recovery'), similar to remission, or both; and 4. Who cares? To what end and for whom are we endeavoring to operationally define recovery and what ultimate added clinical and public health utility is there in a formal definition. This paper describes the background surrounding the creation of the initial formal descriptive recovery definition and discusses these points in the hope of decreasing confusion and increasing future definitional utility. In conclusion, it is argued that for the purposes of estimating objective recovery prevalence and in guiding important social determinations, only narrower definitions may be feasible, with more elaborate multidimensional definitions being reserved for descriptive purposes.

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## Introduction

Almost 20 years ago, renowned researcher and historian, William White, in describing addiction recovery, stated that it touches on highly sensitive issues for our society with broad and serious implications, noting, 'the process may dictate who is seen as socially redeemed and who remains stigmatized, who is hired and who is fired, who remains free and who goes to jail, who remains in a marriage and who is divorced, who retains and who loses custody of their children, and who receives and who is denied government benefits' (White, 2000; 2007, p. 3). In this way, a 'recovery' definition could have critical economic, legal, familial, and social implications for how we understand, treat and support persons experiencing the spectrum of substance use conditions. 'Recovery' also has been put forth at state and federal levels as a

valuable positively valanced concept that may have utility as an overarching and organizing paradigm for the whole field of addiction (White, 2007; Best et al. 2011).

Given its importance, it is perhaps somewhat surprising that the fundamental question - what exactly is 'recovery'? - has persisted during these past two decades since White's (2007) admonition. It is true that a flurry of *descriptive* recovery definitions and ingredients has emerged in the ensuing period with regard to what the construct of recovery is, or should contain (e.g. The Betty Ford Institute Consensus Panel, 2007; White, 2007; Kelly and Hoeppner, 2015; SAMHSA, 2013; Kaskutas et al. 2014; Ashford et al. 2019), but such definitions' have lacked clinical and public health utility. This is because – unlike diagnostic 'remission' which has specific criteria and time-based duration thresholds – the recovery definitions

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continue to lack specific thresholds of measured elements as well as any required temporal durations (e.g. a recovery domain element threshold must be reached and maintained for at least 3 months) that can be operationalized and tested. The question of utility seems central and of paramount significance in any discussion of defining 'recovery', especially if it is to be used to answer the kinds of critically important questions posed by White (2007) above. This is not new. As Jellinek noted in defining 'alcoholism' back in the 1950s (Jellinek, 1960, p. 76) when describing the dictionary definitions of alcoholism: '... one must conclude that there are more definitions of 'definition' than there are definitions of alcoholism ... [therefore] one cannot question whether definitions are right or wrong unless they go against the rules of the defining process, but one may debate their utility.'

The primary question of operational utility is an important one. For instance, one of the first and perhaps best known 'recovery' definitions authored by The Betty Ford Institute Consensus Panel (2007) defined recovery as 'a voluntarily maintained lifestyle characterized by sobriety, personal health, and citizenship.' Yet, while sobriety may be quite straightforward to operationalize and measure (e.g. no alcohol/drug use), other components of 'personal health' and 'citizenship' present operationalization and measurement threshold challenges. How, for example, should 'personal health' be assessed? And what is the requisite level of 'personal health' or good 'citizenship' that should be reached on such assessments in order to be considered 'recovering' or 'in recovery', and for how long do such thresholds (once defined and agreed upon) need to be maintained for them to be recognized as evidence of tangible 'recovery' (including 'sobriety'). Furthermore, do all elements need to be maintained at that level for that duration to designate someone as being in recovery? Similarly, the US Substance Abuse and Mental Health Services Administration (SAMHSA) states their definition of recovery as, 'a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential.' (SAMHSA, 2013), and Ashford et al.'s (2019), 'an individualized, intentional, dynamic, and relational process involving sustained efforts to improve wellness' are all good descriptive definitions in many people's estimations, but face the same operational utility challenges.

In this paper, we aim to clarify the exact nature of this kind of continued confusion and ongoing debate on defining recovery through discussion of four main

issues that we hope will facilitate the formation of better testable operational recovery definitions: 1. Whether we are talking about a clinical vs personal definition; 2. What should be included in an operational definition of 'recovery' and at what threshold for what duration; and, whether abstinence, sobriety, or remission, should be the basis of - or even be part of - a such a definition; 3. Whether we are describing recovery as a process vs a categorical endpoint ('in recovery' vs 'not in recovery'), similar to remission, or both; and 4. Who cares? To what end and for whom are we endeavoring to define or operationally define recovery and what is the clinical and public health utility in such a definition. In the final section, we comment on the utility or futility of an operational recovery definition that is distinct from other commonly used constructs such as 'remission'.

### **Are we talking about a clinical vs personal recovery definition**

At least some of the confusion surrounding the question of the utility of definitions of recovery has centered on whether we are talking about a personal versus a clinical definition. Studies of people who have resolved a 'substance use problem' or are viewed as being 'in recovery' reveal that many things are important to them and such populations of recovering individuals describe a number of positive attributes including improvements in such things as honesty, integrity, psychological well-being, and improved psychosocial functioning (e.g. Kaskutas et al. 2014; Zemore et al. 2023). Also, Leamy et al.'s (2011) work in the mental health field that distilled the major subjective ingredients of mental health recovery as community, hope and optimism, positive social identity, meaning and purpose, and empowerment (with the first letter of each of these words, 'community', 'hope', 'identity', 'meaning', and 'empowerment', spelling the acronym, 'CHIME') has helped the field understand the broader phenomenology of recovery. Yet, while interesting and informative, they do not provide much utility in terms of helping us estimate standardized population rates of 'recovery' of various durations, like we can for remission, or as decision aids in helping decide the kinds of serious social dilemmas described by White (2007) at the beginning (e.g. in deciding questions of child custody). Thus, whereas knowledge of these subjective experiential ingredients can be helpful in terms of identifying the elements that we might be able to mobilize and thus hopefully enhance 'recovery' rates, it doesn't help us much with

arriving at an operational definition where we need explicit criteria and duration thresholds so that results can be replicated – a cornerstone of scientific research.

We propose that a clear distinction be made between a *personal* recovery definition and an objective or standardized clinical or public health recovery definition as has been done in the mental health field (e.g. Pelletier et al. 2020). In Table 1 below, we outline some of these major differences between these two approaches to defining the construct of ‘recovery’ in the addiction field, given the current confusion. Hopefully clear from the table is that a major problem is that whereas subjective opinions on what recovery is can vary greatly because such definitions are left up to the individual to self-define, there is no clinically agreed consensus opinion on what a standardized clinical or public health definition of ‘recovery’ should be. This is in contrast to the well-established definition of SUD ‘remission’, which is standardized and little if any contentious debate exists regarding its constituent parts, markers of temporal duration, or broader clinical utility. This does not mean that there is not, or should not be, meaningful overlap in the two ways of defining ‘recovery’. On the contrary, ideally, subjective experience should intimately inform and be incorporated into standardized criteria based on the actual lived experience of ‘recovery’. Indeed, one of the reasons there is little if any contentious debate around the standardized definition of diagnostic ‘remission’ from SUD is because the criteria for the SUD diagnosis and SUD remission were derived from sensitive clinical observation and extensive patient reports of lived experiences of the phenomena of becoming addicted and unaddicted (e.g. Edwards and Gross, 1976). Without consensus being reached on a clinical operational definition of SUD ‘recovery’, however, confusion about what ‘recovery’ is or should be, will remain; and, standardized replicable estimates of ‘recovery’ prevalence as distinct from remission will be out of reach (cf. Hagman et al. 2022).

### **What should be included in an operational definition of ‘recovery’ and at what threshold for what duration; and, whether abstinence, sobriety, or remission, should be the basis of – or even be part of – a such a definition**

What should be included in an addiction recovery definition is at the heart of the debate as the types of included ingredients and their nature are considered as constituent parts. Some argue that SUD recovery

‘should not be about/only about abstinence’ or ‘is not abstinence/sobriety’. Yet, if recovery is only focused on psychosocial ‘functioning’ or ‘well-being’ it may make it too nonspecific to SUD, given that recovery from many medical illnesses and psychiatric disorders involve such improvements, and some definitions (e.g. SAMHSA’s definition, ‘a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential’), arguably are so broad that they could even be applicable generally to the ontogenetic struggle of all human beings throughout the human lifespan, irrespective of whether or not they’ve suffered previously from SUD or other psychiatric illnesses. The Betty Ford definition included sobriety, but that is a rarity among myriad definitions (cf Hagman et al. 2022).

Due to the latter issue of specificity, we believe that any operational definition of recovery from a SUD should include some reference to remission or abstinence/sobriety or reduced substance exposure in order to tie it to the ‘raison d’être’ of its origin. Specifically, the whole point is that someone was once very sick due to chronic heavy exposure to one or more substances, the continued use of which induced brain changes that impaired control over that use, despite harmful consequences, and now is not. This is because those individuals have proven to themselves and others that continued heavy exposure, or any use at all, results in acute, severe, consequences including high risk of potential death. For some, it may not be about sustained low-level use or abstinence, for others it is fundamentally about that, as for such individuals, everything to do with health and well-being hinges on continued successful substantial reduction or complete abstinence (e.g. Kelly et al. 2025). For these individuals – and perhaps others who say they’re ‘in recovery’ too – the other elements of recovery beyond remission or sobriety (e.g. improvements in mental and physical health and functioning) are the factors that help them build resilience against any future use/heavy use, relapse, or disorder recurrence (Kelly and Hoeppner, 2015). ‘Recovery’ in this instance then might be considered as the ‘weatherproofing’ for remission. Remission is the absence of disease – what is subtracted; recovery is the protection against future disease, the building of resilience, or, what is added. By way of a metaphor, two identical planks of wood, both restored and without any signs of disease or deterioration (in human addiction terms this would constitute ‘remission’ – without disease; what has been subtracted); but one is coated with sealant the other isn’t. The one that is coated will be protected against

**Table 1.** Clinical vs personal recovery definition differences.

Recovery Definition	Clinical Definition	Personal Definition
Purpose	Provides standardization of incorporated elements or dimensions along with specified time durations for each; gives rise to valid measurement and outcome thresholds (especially for research, insurance, and legal/social decisions).	Reflects an individual's subjective experience, goals, and personal meaning of recovery. Non standardized.
Focus	Focuses on symptom amelioration, behaviors, and functionality (e.g. abstinence/remission, reduced harm, improved psychological health) for specified time thresholds.	Focuses on personal growth, identity, and life satisfaction, which may or may not include complete abstinence/remission without specified time thresholds
Example	'For at least 12 months, the person demonstrates sustained diagnostic remission from substance use disorder, has returned to full-time work, and has been reintegrated with his family.'	'I feel like I'm in recovery because I'm rebuilding trust with my family, managing cravings, and feeling hopeful, even though I occasionally use drugs and alcohol.'
Authority	Typically based on some kind of professional standard (e.g. American Psychiatric Association's DSM-5, or ASAM criteria, or WHO guidelines).	Based on the individual's own subjective sense of healing and progress.
Measurement	Standardized, psychometrically validated measures (e.g. drug tests, symptom checklists, functional assessments) that facilitate replication.	Subjective, often based on personally expressed narrative.

future weathering better than the one that isn't coated. Even in milder cases of disorder where some do not seek treatment and are able to change on their own, the same 'weatherproofing' concept remains applicable as different people will seek to maintain different kinds of changes to prevent regression back to the former state from which they sought escape.

What are the elements of recovery 'weatherproofing' against deterioration and relapse and recurrence in human terms? These will be biobehavioral in nature: cognitive, affective, and social. In the cognitive realm, these may take the form of recovery motivational vigilance, and prioritization; recovery self-efficacy and coping; optimism and hope. In the affective realm, these may be recovery-specific gratitude and gratitude for other benefits of recovery, which might serve as a useful positive psychological construct that captures both ongoing recovery prioritization and cognitive recovery vigilance but also a sense of deep appreciation for their current status that could serve as a resiliency factor against relapse (e.g. Krentzman et al. 2024). Additional affective elements might include a sense of joy; serenity/peace of mind; meaning and purpose in life; self-esteem/positive self-identity (e.g. akin to Leamy's et al. work). Finally, in the social realm, recovery-oriented social support and network involvement, having a safe/low stress environment that is conducive to and supportive of long-term healing will be significant. Of note, the planks of wood will require intermittent review to determine when additional weatherproofing may need to be re-applied. Similarly, in human recovery terms, there is a

need for continued monitoring and intermittent appraisal of which cognitive, affective, and social elements may need attention to ensure adequate ongoing weatherproofing to protect against relapse and disorder recurrence.

That all said, beyond being highly conceptually relevant to the broad construct of 'recovery', these elements would be highly challenging to try to develop valid measurement thresholds and time-based durations on.

There may be potential in creating something akin to a multiaxial formulation of the recovery construct similar to what was done in the Diagnostic and Statistical Manual (DSM) Fourth Edition where a total of five axes attempted to capture a more holistic picture of the person's bio-psycho-social clinical pathology and functioning. In that case, the primary presenting psychiatric diagnosis was represented on axis I, personality challenges on axis II, medical problems on axis III, psychosocial stressors on axis IV, and a global rating of functioning on axis V (1-100). Although this was a positive attempt to create a better contextualized and more comprehensive assessment of challenges (much like one might do in defining and explaining the complexities of addiction recovery), because there were no recommended accompanying standardized metrics proposed to measure these conceptually useful axes, it lacked reliability. As such, clinical uptake was low, and the axes were dropped in the next iteration of the manual. If something like this were to be constructed on the recovery side - to reflect both a recovery process and category - it would

once again require answers to what constructs and measures to include across axes, and what thresholds and durations would be used to assign a 'recovery' status.

So far, only one specific testable operational definition has been offered: authors from the U.S. National Institute on Alcohol Abuse and Alcoholism (NIAAA 2023) published a paper (Hagman et al. 2022) delineating a definition of alcohol use disorder 'recovery' as 'remission plus cessation from heavy drinking' with additional duration-based specifiers defined as DSM 5 remission status of lasting varying lengths of time (i.e. initial recovery = up to 3 months; early recovery = 4-12 months; sustained recovery 1-5 years; and, stable recovery = >5 years), and with 'no heavy drinking', defined as never exceeding the NIAAA-defined daily low-risk, sex-specific, alcohol use thresholds at any time during these same durations (i.e. no more than 7 US standard drinks for a woman in a week and no more than 14 for a man in any given week). Among most recovering persons and recovery researchers (like us), this is a somewhat unsatisfying 'recovery' definition given its narrow and somewhat lackluster focus mostly on the absence of the harms from drug exposure (alcohol in this case) and not the joys so often experienced among recovering persons.

Although this purposely narrow definition was the official one offered, the authors did note, however, that there are likely broader psychosocial and economic correlates of recovery using this definition that occur as people achieve remission and refrain from heavy alcohol use (e.g. gains in functioning and various indices of psychosocial well-being) that can confer a positive reciprocal effect on the chances of ongoing remission in line with the prior bi-axial conceptualization of the recovery construct (Kelly and Hoeppner, 2015). The definition, however, purposely shied away from including any of these psychosocial functioning or well-being indicators in the formal operational definition, presumably because of the challenges involved in deciding dimensional thresholds on such measures as well as temporal durations for maintaining such thresholds, similar to the conundrum mentioned earlier regarding measuring 'personal health' or 'citizenship'. The point of creating a formal operational definition of recovery was to offer the field something that was explicitly testable amid an array of broad and untestable purely descriptive definitions and, thus, examine its potential research, and broader, utility. It turns out that such a simplified, and ostensibly narrow, definition, actually may have broader clinical and public health utility as it does appear to

be associated with differential improvements in other broader indices of functioning and well-being (e.g. Kelly et al. 2025). This formal NIAAA-defined operational definition stands in stark contrast to the more elaborate, descriptive, definitions previously offered that have remain untestable.

In sum, the current concept of 'recovery' can vary from personal problem resolution, to clinically-defined non-abstinent remission or fully abstinent remission (e.g. Kelly et al. 2025), to subjective and personal definitions to embrace the diversity of autonomous experience in respect to what that personal healing looks like as defined by the individual. All of these efforts have been attempts to articulate the transformative process of emancipation from a chemically impacted brain characterized not just by an often radically changed relationship with substances, but measurably improved functioning across other life dimensions. But without formal operational definition regarding what specific elements should be included and assessed, at what specific threshold cut-off level, and for what duration they must remain at, or surpass, that threshold level, the use of 'recovery' status in any kind of standardized clinical or public health based 'recovery prevalence' study or in a judicial or other decision making process, will remain out of reach.

### **Whether we are describing recovery as a process vs a categorical endpoint ('in recovery' vs 'not in recovery') - similar to remission - or both**

As noted above, 'recovery' is both a process and a categorical endpoint. Most current descriptive definitions define it as a process (e.g. SAMHSA, 2013, Ashford et al. 2019). This is of course because people progress typically along a continuum of reduced or eliminated substance involvement, improved bio-psycho-social function, well-being, and healing, that is tantamount to a recovery 'process'. At the same time, however, people will also identify categorically as either being 'in recovery' or not, signifying a shift that occurred at some point along the SUD continuum as the person crossed over the invisible line and moved from one social identity status to the other (Best et al. 2016).

Improvements in health and well-being and healing that occur in the absence of chronic, heavy, substance exposure, tend to occur gradually, perhaps punctuated by more relatively acute and discrete time-limited phases (e.g. withdrawal management and metabolic stabilization in the early days). An important question

weighing on any recovery definition is its utility in giving judges, courts, legislators, funders, policy-makers, employers, clinicians, family members, spouses, etc. something more useful than might be gained from merely knowing someone's clinical SUD remission status and its duration alone (Ray et al. 2023). What exactly that would be when it comes to a 'recovery' status, specifically, remains currently out of reach.

### **Who cares? What clinical and public health utility is there in a formal recovery definition - to what end are we endeavoring to operationally define recovery**

It is often remarked that we have to define 'recovery'. But, a lingering and unaddressed question remains as to what end? What will it be used for? White (2007), as noted at the beginning of this article, highlighted the social significance of defining 'recovery', but, again, we remain unable to categorize someone as being 'in recovery' or not, as a status separate and distinct from 'remission', using current definitions (other than Hagman et al. 2022), or for how long, so that a criminal or family court, for example, could make a ruling regarding child custody or visitation rights. Even if one argues that the point is not to categorize someone as being 'in recovery' or 'not in recovery' (the way we do for diagnostic remission purposes), but rather to measure the 'process' (e.g. as SAMHSA and many other definitions describe it), the question still remains, to what end? How would a court use 'recovery' process or status in helping them make a decision? Pleading with a judge that someone has moved two points up the 'self-directed life' scale and 4 points up the 'striving to reach full potential' scale and maintained those levels for 3-months seems far-fetched, unless such incremental moves are shown to predict further psychosocial stability and/or sustained remission status. Indeed, it's plausible they could have such utility, but only if a judge can know that such scale thresholds reached or surpassed for certain durations have some proven robust prognostic utility in terms of the person now having a high probability, for example, of not engaging in domestic violence against their partner, and/or being substantially less likely to continue to drive under the influence endangering others' lives, or not breaking the law in other ways, as well as improved biopsychosocial functioning.

Taking SAMHSA's definition, for example, how would one go about measuring its constituent parts

such as a 'self-directed life' or striving to reach one's full potential? Even if as a field, we can agree on a measure of 'self-direction in life' and 'striving to reach full potential', what is the threshold on such measures that must be reached in order for someone to be considered in recovery (vs not) or even in the process of recovery? Would it be any positive move up the scale? And if so, how would this be expressed? 'The patient has moved two points up the scale in life self-direction'. Given such interval scales are merely arbitrary metrics (Blanton and Jaccard, 2006), without intrinsic meaning, the question still remains as to what it signifies other than some improvement in the right direction. It may be of course that on certain measures, there is predictive and prognostic validity to certain threshold achievements. For example, a score of 8.5 on the scale of 'life self-direction' predicts with 70% accuracy that the person will remain in remission in the next 6 months. But these kinds of predictive relationships and their utility require investigation.

Related to an ultimate standardized and standalone 'recovery' definition, it is important to consider when explicating recovery and measuring its constituent parts, who the audience is in terms of the types of recovery measures they are likely to care about. Table 2, for instance, highlights different stakeholders and populations that are likely to be interested in and respond to different types of SUD recovery elements. The affected person themselves and their family and perhaps clinicians will hold certain outcomes as critically important (e.g. quality of life; well-being; remission), whereas state legislators, payors, law enforcement, courts, and public policy makers are likely to give higher importance to different elements, such as the degree of public nuisance, overdose, spread of infectious disease, and costly emergency department use/overnight hospital stays, and care less of about an individuals' score on a measure of flourishing.

### **Conclusion**

For many, 'recovery' is an identity that includes culture and community. It has deep personal meaning as a concept, even as it has remained unclear in its conception. It is not our intent to shift away from recovery terminology in communities in which this term is useful and important. Even as this all-encompassing term has great value in public spaces to elevate the idea and probability of healing and pro-social processes, we simply have failed to reach a consensus

**Table 2.** Important addiction recovery-related outcomes that may vary in importance to different stakeholders.

Level	Stakeholder					
	Individuals in recovery	Clinical and Public Health	Recovery Support Services	Public Safety	Public Opinion	Public Policy
Withdrawal	x	x				
Post acute withdrawal	x	x	x			
Harmful use	x	x	x			
Remission	x	x	x			
Coping Skills	x	x	x			
Self-Efficacy	x	x	x			
Social network	x	x	x			
Quality of Life	x	x	x			
Functioning	x	x	x			
Psychological Well-being	x	x	x			
Housing	x	x	x	x	x	x
Acute Medical Services use	x	x			x	x
SUD/MH treatment	x	x	x		x	x
Employment	x	x	x		x	x
Public Intoxication/use				x	x	x
Arrests/Legal status	x			x	x	x
Overdose Deaths/Overdose	x	x	x	x	x	x
Infectious Disease	x	x	x	x	x	x

definition that has operational scientific utility that can be used for epidemiological, clinical, public health, legislative, and policy purposes.

In many ways the challenge in operationally defining 'recovery' is similar to the challenges faced by many nations and the World Health Organization (WHO) in defining the allied, but much broader, construct of 'health'. The WHO has grappled with defining it for many decades going from the 'absence of disease' paradigm, to a definition that includes high levels of social engagement and psychological well-being as well (Schramme, 2023). Still, estimating the proportion of 'healthy' people using such criteria in any population has similarly remained out of reach for the same reasons mentioned above for 'recovery' – what thresholds on what dimensions must be reached and for how long to classify someone as 'healthy'.

Given these dilemmas, is there utility or futility in an operational definition for addiction recovery? It may be that given the complexity of the proposed multidimensional recovery construct, like 'health' and 'healthy', it may be better left as a general descriptive term that captures the general positive movement toward independence and self-determination plus better health and well-being (e.g. Ashford et al.'s 2019 or SAHMSA's 2013 definition) and that, in general, may include sustained remission plus the positive consequences stemming from and supported by them (e.g. Kelly and Hoeppner, 2015). This would mean, however, that we would be unable to determine standardized and replicable 'recovery' prevalence rates from an epidemiological perspective, or be able to use 'recovery' specifically – as something qualitatively distinct from remission – to inform and guide important

social and legal decisions (e.g. child custody etc). We could still obtain *remission* rates, however, of various durations and examine the positive consequences and correlates of that remission (e.g. Hagman et al. 2022; Kelly et al. 2025). Ultimately, then, it may be that we need to construct and agree upon narrower operational recovery definitions – as conceptually unsatisfying as these can be – that can be tested for their clinical and public health utility such as that proposed by NIAAA (Hagman et al. 2022) and recently demonstrated to have such utility (Kelly et al. 2025). It is hoped that this paper helps provide some clarity to the dilemmas of creating a standardized operational 'recovery' definition that has measurable, replicable, utility, and stimulates further thought, discussion, and research along these lines.

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