HOW SHOULD WE MEASURE ADDICTION RECOVERY? ANALYSIS OF SERVICE PROVIDER PERSPECTIVES USING ONLINE DELPHI GROUPS

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Running title: How should we measure addiction recovery?

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ABSTRACT

Aims: To explore ways of measuring addiction recovery and the extent of agreement/disagreement between diverse service providers on potential recovery indicators. **Methods:** Separate online Delphi groups with: i. addiction psychiatrists (n=10); ii. senior residential rehabilitation staff (n=9); and iii. senior inpatient detoxification unit staff (n=6). Each group was conducted by email and followed the same structured format involving 3 iterative rounds of data collection. Content analyses were undertaken and the results from each group were compared and contrasted. **Findings:** Indicators of recovery spanned 15 broad domains: substance use; treatment/support; psychological health; physical health; use of time; education/training/employment; income; housing; relationships; social functioning; offending/anti-social behaviour; well-being; identity/self-awareness; goals/aspirations; and spirituality. Identification of domains was very consistent across the 3 groups, but there was some disparity between, and considerable disparity within, groups on the relative importance of specific indicators. **Conclusions:** Whilst there is general consensus that recovery involves making changes in a number of broad life areas and not just substance use, there is substantial disagreement on particular measures of progress. Further studies involving other stakeholder groups, particularly people who have personally experienced drug or alcohol dependence, are needed to assess how transferable the 15 identified domains of recovery are.

Key words: Substance Misuse; Recovery; Measurement; Delphi Groups, Service Providers

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BACKGROUND

'Recovery' has been an important concept in mental health services for nearly three decades (Scheyett et al., 2013) and is now an increasingly core feature of international addiction policy and practice. In the UK, this is evident in government drug and alcohol strategies; think tank publications; politicians' speeches; grassroots activity, encompassing traditional mutual aid groups and new recovery communities; and changes to service delivery, including less focus on keeping individuals in treatment and more emphasis on ensuring that they leave services drug-free (c.f. Duke et al., 2013). Many have argued that the shift towards 'recovery-oriented' drug and alcohol treatment provides a much-needed opportunity to raise service users' goals and aspirations. Nonetheless, concerns and differences of opinion persist, with recovery routinely described as a contested concept (Paylor et al., 2012; Neale et al., 2014).

Reflecting such on-going debates, attempts to produce an acceptable, widely agreed definition of 'addiction recovery' have proved elusive (for various definitions, see: Betty Ford Institute, 2007; UKDPC, 2008; Best et al., 2009; Thom, 2010; SAMHSA, 2011). One consequence of this ambiguity is that the term 'recovery' has often been used interchangeably with the word 'abstinence', so potentially undermining services operating within a broader harm reduction framework. Whether or not opiate maintenance treatment can support recovery or is evidence, per se, of a failure to achieve recovery has also been widely disputed

(Recovery Orientated Drug Treatment Expert Group, 2013). Additionally, it has been argued that the move to a more recovery-based approach to treatment can prompt people into detoxification and abstinence programmes prematurely, thus creating a fragile 'recovery' that is unsustainable and potentially harmful (Neale et al., 2013).

Latterly, there appears to have been some emergent agreement across policy, practice and service user stakeholders that recovery means more than just a reduction in substance use. Rather, it involves individuals achieving benefits in a wide range of life areas, including their relationships, housing, health, employment, and offending (Scottish Government, 2008; HM Government, 2010). Furthermore, these benefits can be achieved with appropriately prescribed medications (Recovery Orientated Drug Treatment Expert Group, 2013). Others have noted that recovery outcomes should be extended to include (re)building relationships; achieving emotional stability; practising greater self-care; engaging in meaningful activity; managing income and domestic arrangements; participating in community life; and realizing broader health and well-being goals (Burns & MacKeith, 2012; Neale et al., 2012; ACMD, 2013). Nonetheless, measuring such diverse outcomes is not easy, and there is still a persistent tendency to focus on very basic quantitative indicators, weighted towards reduced drug consumption and offending.

In this paper, we use data collected from online Delphi groups conducted with three diverse types of service provider to explore possible ways of measuring recovery and to provide insights into the extent to which those participating in the groups agreed or disagreed on potential recovery indicators. This work comprises the first stage of a larger study that will next explore service users' views of recovery with a view to developing a future addiction

recovery patient reported outcome measure (or PROM).

METHODS

According to Linstone and Turoff (1975, p3), the Delphi method is a way of structuring group communication so that 'the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem'. The approach is very versatile and has been modified and adapted repeatedly over the years. Common features include seeking responses to questions from a panel of experts; preserving the anonymity of those experts; collation and analysis of the experts' responses; feedback of collated responses to the experts; and opportunities for experts to confirm or modify their responses in light of the group feedback. The process of feedback and further data collation is iterative and can be repeated for a pre-determined number of 'rounds' or until some other pre-specified criterion has been met (Mullen, 2003).

Although it is commonly believed that achieving consensus between participants is a defining feature of the Delphi method, the approach can also be used to determine the extent to which experts agree or disagree about a given issue (Jones & Hunter, 1995; Mullen, 2003). Likewise, it can be employed as a means of structuring and discussing diverse but informed views on a particular issue, as in the Policy Delphi (Turoff, 1970). In our study, we did not particularly seek or anticipate consensus: rather, we ran three separate Delphi groups, each with different stakeholder types, on the assumption that their views on how to measure recovery would likely be diverse and cross-group agreement would probably be limited.

Nonetheless, we could not claim this before undertaking the reseach and we therefore began each group with an open mind.

A further pragmatic reason for using the Delphi method was that it enabled us to collectively engage experts whom it would otherwise have been too costly and time consuming to bring together for face-to-face interaction. Our three chosen stakeholder groups were: i. addiction psychiatrists; ii. senior staff from residential drug and alcohol treatment services; and iii. senior staff from inpatient detoxification units. As previously indicated, our focus was on service providers' perspectives and we wanted to be inclusive of those working across a range of treatment modalities (substitute prescribing, psychosocial therapies, residential treatment), stages of the putative recovery pathway (community prescribing, detoxification, rehabilitation), and sectors (publicly funded healthcare, charities, the private sector), as well as across the UK. Whilst there were other groups of service provider we could no doubt have included (such as substance misuse nurses, therapists, drug workers), we decided to focus on more senior staff given that their views would likely have greatest organizational influence.

The Delphi groups were conducted sequentially by email in late 2013 and early 2014, and all followed the same structured format of three email rounds conducted over a five-week period. In Round 1, participants were asked to 'identify up to 10 changes in an individual's life or behaviour that might help us to measure recovery'. The data generated were then subject to a simple content analysis. To begin we removed duplicate responses and grouped the remaining change statements into broad domains - adhering as closely as possible to the group members' original words. In Round 2, all change statements were emailed back to the participants in an Excel spreadsheet. Participants were then asked to rank each change for

importance on a scale of 1-10, and also to provide any comments. Median scores and range for each change were next calculated. In Round 3, all changes were again emailed back to the participants, along with a) their own second round score; b) the median and range for the group in Round 2; and c) the amalgamated Round 2 comments on particular changes. Participants were then asked to rank the changes again, providing any further comments. The identities of all participants were concealed from each other throughout.

In the final stage of our analyses, we extracted all change statements that had a median score of 7 or more and compared and contrasted the results across the 3 Delphi groups. This enabled us to identify the key measures and domains of recovery, as well as agreement and disagreement, from the perspective of our participants.

Epistemological approach

Over the years, the epistemological status of the Delphi method has been much debated but with no clear resolution (c.f. Keeney et al., 2011). As a technique that derives quantitative data through qualitative approaches, it effectively has a hybrid status that combines positivism and social constructivism (Critcher & Gladstone, 1988). That said, the Delphi method is neither an opinion poll nor a representative survey. It does not produce – and does not seek to produce – empirically generalizable results and it is therefore unhelpful to judge it using a positivist paradigm (Helmer, 1977). Our approach to the Delphi method aligns more closely to social constructivism. Thus, we started from the premise that reality is continually created by people acting on their personal knowledge and subjective interpretations.

Accordingly, the Delphi method was not used to yield an 'objective', 'reliable' or 'valid' 'truth' about the measurement of recovery. Rather, it was assumed that there will be multiple representations of recovery progress, and the value of our analyses would lie in any new light we could shed on the nature and range of measurement possibilities, and the strength of opinion held by the participants.

PARTICIPANTS

i. Addiction psychiatrists

Eighteen addiction psychiatrists (males and females) working in a range of publicly funded community drug treatment settings across the UK were randomly selected from the attendance list of a national addiction conference. They were all approached once by email (no reminders were sent out after the initial email contact). Ten responded positively and were recruited. All 10 psychiatrists actively participated in all 3 rounds of their group.

ii. Senior staff from residential drug and alcohol treatment services

Seventeen service managers, medical directors, admissions managers and CEOs of residential rehabilitation facilities were identified via the Public Health England website Rehabonline (http://www.rehab-online.org.uk/advancedsearch.aspx) and web searching. These 17 individuals were chosen to include men and women and representation from small, medium

and large residential treatment services, different therapeutic approaches, different funding structures and different geographical areas. All 17 individuals were approached by email and a subsequent 'reminder email'. Nine responded positively and were recruited. The services they worked in varied from less than 15 to over 50 bed spaces; catered for women only, men only and mixed sex; included 12-step, therapeutic community, faith-based and hybrid approaches; and were both private and charitably funded. Eight participants contributed in the first round (one had to sit out due to bereavement) and all 9 participated in the second and third rounds.

iii. Senior staff from inpatient detoxification units

Nine service managers, medical directors, treatment directors, and CEOs of inpatient detoxification facilities were identified via the Public Health England website Rehabonline (http://www.rehab-online.org.uk/advancedsearch.aspx) and web searching. These 9 individuals were chosen to include men and women and representation from small, medium and large detoxification units, different funding structures and different geographical areas. As many inpatient detoxification units have recently been closed across the UK, it was difficult to identify other potential senior participants. All 9 individuals were approached by email and a subsequent 'reminder email'. Eight responded positively, although only six actually went on to participate. The services they worked in varied in size (10 to over 35 bed spaces) and were both private and charitably funded. Five individuals participated in the first round (one was too busy), 5 participated in the second round (one had a bereavement), and all 6 participated in the third round.

Further participant details are provided in Table 1:

TABLE 1 HERE

FINDINGS

Round 1

Table 2 shows the broad types of change identified in Round 1 by each of the 3 groups. Changes related to 15 distinct domains: 1. substance use; 2. treatment/support; 3. psychological health; 4. physical health; 5. use of time; 6. education/training/employment; 7. income; 8. housing; 9. relationships; 10. social functioning; 11. offending/anti-social behaviour; 12. well-being; 13. identity/self-awareness; 14. goals/aspirations; and 15. spirituality.

TABLE 2 HERE

Two notable features of Table 2 are: i) the large number of changes and domains reported and ii) the overlap between the changes and domains identified by the three different Delphi groups. In so far as any key differences between the groups were evident: the addiction psychiatrists did not include changes relating to 'goals/aspirations' or to 'spirituality'; when talking about engaging with treatment and support, the addiction psychiatrists focused on formal/ medicalized treatments, the residential rehabilitation staff focused on peer support

groups and private therapy, and the detoxification unit staff referred to both formal/ medicalized treatment and mutual aid/ peer support groups; and when discussing substance use, the detoxification unit staff ***only*** included changes relating to abstinence (not harm reduction or reduced drug use as identified by the 2 other groups).

Translating participants' Round 1 responses into discrete change statements, whilst also trying to adhere as closely as possible to their own words, was not straightforward. This was because differences between participants' responses were often subtle (e.g. 'no alcohol use' v 'no substance use' v 'no illicit drug use' *or* 'engaging with services' v 'accepting treatment' *or* 'improving relationships with family' v 'improving relationships with children'). Additionally, participants' original responses were not always clearly expressed. Despite this, findings indicated that the addiction psychiatrists collectively identified 44 changes for measuring recovery, the senior residential rehabilitation staff identified 57 changes, and the senior inpatient detoxification unit staff identified 38 changes. These change statements were fed back to participants in Rounds 2 and 3.

Rounds 2 and 3

In the event, median and range scores for each change statement did not alter markedly between Rounds 2 and 3 for any group. For this reason (and given space constraints), we report the Round 2 and 3 data together. We also focus our analyses on statements that attained a median score of 7 or more at the end of Round 3. Although this is a somewhat arbitrary cut-off point, statements scoring 7 or above were measures of recovery that group

members clearly identified as important.

i. Addiction psychiatrists

In Round 2, there was considerable variation between the addiction psychiatrists' scores for their 44 statements. Indeed, 6/44 statements received scores of both 1 (very unimportant) and 10 (very important) and there was no single statement on which all participants agreed. The three statements generating most agreement were recovery can be measured by 'feeling confident and empowered' (score range 8-10), 'feeling in control' (score range 8-10), and 'developing coping strategies' (score range 8-10). Despite this evident disagreement, 34 of the 44 statements generated a median score of 7 or more, thus suggesting that the addiction psychiatrists felt that there were many important measures of recovery.

In Round 3, 3 of the 44 statements measuring recovery still had scores of both 1 and 10 and, again, there was no statement which all participants scored the same. Similarly, the smallest score range for any statement measuring recovery continued to be 3 points. This time, however, there were five statements where the score range was 8-10: recovery can be measured by 'feeling confident and empowered', 'feeling in control', 'developing coping strategies', 'acquiring life skills', and 'improved sense of self, with self-perception not focused on status as *addict*'.

After Round 3, 35 statements had a median score of 7 or more (see Table 3). Notably, no statement relating to 'treatment' (e.g. starting treatment or completing treatment) had a

median score of 7 or more. In contrast, the domain with the largest number of statements (n=7) at the end of Round 3 related to substance use, although 4 other categories each had 4 statements: 'psychological health', 'use of time', 'relationships', and 'social functioning'. The change statements with the highest median score (10) were: recovery can be measured by 'increased control over substance use', 'reduced injecting', 'no longer misusing alcohol', 'feeling in control', and 'increased meaningful use of time'.

TABLE 3 HERE

Using their opportunity to add comments in Rounds 2 and 3, the addiction psychiatrists noted where they particularly agreed or disagreed with statements or where they thought that statements could be refined or merged. These comments generally conveyed participants' strength of opinion, as well as exasperation that some of the statements suggested by their peers were overly simplistic or badly worded. In addition, some addiction psychiatrists expressed frustration that the nuanced nature of 'recovery' as a concept was lost in the attempts to measure it in a spreadsheet.

ii. Senior staff from residential drug and alcohol treatment services

Like the addiction psychiatrists, the residential rehabilitation staff also generated some very divergent scores for their 57 change statements in Round 2. Thus, 10 statements received scores of both 1 (very unimportant) and 10 (very important), and total agreement occurred completely in relation to just one statement (recovery can be measured by 'freedom from

dependence on mind-altering substances', which everyone scored as 10). Otherwise the smallest score range for any statement was 3 points: recovery can be measured by 'improved physical health' (score range 7-9), 'moving towards independence from co-dependent family relationships' (score range 7-9), 'improved social functioning' (score range 6-8), and 'better self-management' (score range 7-9).

As with the addiction psychiatrists, a very high proportion of the change statements (54/57) at Round 2 generated a median score of 7 or more. This was because many of the residential rehabilitation staff agreed that a particular change was very important, but a small number in the group disagreed. There was, nonetheless, no clear pattern or consistency in terms of who scored statements as being of high or low importance.

After Round 3, 4 of the 57 statements still had scores of both 1 and 10 and there was now no statement on which all 10 participants agreed. The smallest score range for any statement had, however, reduced to 2 points: recovery is measured by 'improved physical health' (score range 7-8) and 'increased time spent in meaningful activity' (score range 8-9). A further four statements had a score range of 3 points. The number of residential rehabilitation staff statements with a median score of 7 or more decreased very slightly to 53 in Round 3, but still included statements from all 15 domains. This included 11 statements relating to psychological health, 8 relating to relationships, and 7 relating to substance use. Only 2 statements had a median score of 10 at Round 3 and both were abstinence-focused: recovery can be measured by 'freedom from dependence on mind-altering substances' and 'achieving abstinence from mind-altering chemicals, including alcohol' (see Table 4).

TABLE 4 HERE

Residential rehabilitation staff who offered additional comments with their Round 2 and Round 3 scores highlighted examples of statements that they believed were similar to each other, poorly defined, value judgments, immeasurable, dependent on context, not relevant for everyone, about harm minimization rather than recovery, and inappropriate or antithetical to recovery. In other words, comments by the residential rehabilitation staff conveyed a lack of consensus on the use of particular indicators of recovery despite the many high median scores for the group as a whole.

iii. Senior staff from inpatient detoxification units

Round 2 also revealed disagreement between the detoxification staff, but this was less than amongst the addiction psychiatrists and residential rehabilitation staff. Thus, there were scores of both 1 (very unimportant) and 10 (very important) for only one of the 38 change statements; yet, detoxification staff also only agreed completely on one statement (recovery can be measured by 'attending to finances', which they all scored as 7). Otherwise, the smallest score range for any statement was 2: recovery can be measured by 'increased community integration' (score range 7-8) and 'less or no criminal activity' (score range 8-9). Four other statements had a score range of 3. As with the previous 2 groups, a very high proportion (29/38) of the change statements identified by the detoxification staff generated median importance scores of 7 or more.

After Round 3, there was no statement on which all 10 participants agreed. However, there were also no statements scoring both a 1 and 10 (see Table 5). The smallest score range was still 2 points: recovery can be measured by 'improved relationships with family' (score range 8-9), 'living right' (score range 7-8), and 'less or no criminal activity' (score range 8-9). Additionally, 10 statements now generated a score range of just 3 points.

As Table 5 shows, 29 of the 38 statements measuring recovery after Round 3 had a median score of 7 or more (similar to Round 2). These 29 statements comprised 13 domains and included 8 statements relating to psychological health, 6 statements relating to relationships, 3 statements relating to social functioning, and 3 statements relating to identity/self-awareness; but only 1 statement relating to substance use. The 5 statements with the highest median score (9) were: recovery can be measured by 'achieving abstinence/not doing the addictive behaviour', 'increased ability to impose a positive structure on own life', 'less or no criminal activity', 'increased positive outlook on life', and 'making hopeful and achievable plans for the future'. After Round 3, there were no statements relating to the domains of treatment/support or spirituality.

TABLE 5 HERE

Only one participant in the inpatient detoxification unit group provided any substantive comments alongside their scores in either Round. This individual noted that some of the change statements were similar to each other and could be merged, needed rewording, or were subjective. Overall, it seemed that most individuals were generally accepting of the concept of recovery and agreed that progress in relation to most of the suggested measures

was important.

iv. All groups compared

In Table 6, we combined our analyses of the Round 3 data to examine the change statements within each domain by participant group, and also to construct a composite list of changes for all groups. Consistent with Round 1, this revealed a very high level of agreement between the three types of treatment provider regarding the key recovery domains. Indeed, the only domains not recognized by all three groups were 'treatment/support' and 'spirituality' (both only identified by residential rehabilitation staff) and 'goals/aspirations' (not highlighted by the addiction psychiatrists). The composite list of changes was lengthy and showed that the domains with the greatest number of recovery indicators were 'psychological health', 'relationships', and 'social functioning'. 'Substance use' had four potential indicators: 'reduced drug use', 'practising harm reduction', 'achieving abstinence', and 'engaging with relapse prevention'.

In terms of discrepancies between the three groups on potential recovery indicators, the addiction psychiatrists did not identify 'engaging with relapse prevention', the residential rehabilitation staff did not identify 'practising harm reduction', and the inpatient detoxification unit staff focused only on 'achieving abstinence'. The residential rehabilitation staff were the only individuals to identify 'improved self-care practices, including diet and nutrition', 'moving away from negative relationships', and 'better quality of life for others'. Only the inpatient detoxification unit staff did not identify education or training. Overall, it

seemed that the differences between individuals within groups (identified previously) were greater than the differences between groups; or, expressed slightly differently, there was good consensus across all groups regarding the key domains of recovery but very little agreement on specific recovery indicators.

TABLE 6 HERE

DISCUSSION

The Delphi group method proved successful in eliciting informative data on the measurement of recovery from key practitioner groups. As previously reported, our aims were to explore possible ways of measuring recovery and to provide insights into the extent to which individuals participating in the groups agreed or disagreed on potential recovery indicators. In this regard, we first note that all three Delphi groups had very good completion rates, suggesting that our participants considered recovery and its measurement to be relevant and important. Second, group members changed their scores only minimally between Rounds 2 and 3, indicating that they already had fairly established views on what they believed recovery involved and were not minded to change those views when exposed to the differing opinions of their peers. In fact, one psychiatrist reported that seeing the median scores and comments of others simply made him feel more resolute about his original ratings.

In relation to measuring recovery, 15 broad domains were evident in the data. These were: 1. substance use; 2. treatment/support; 3. psychological health; 4. physical health; 5. use of

time; 6. education/training/employment; 7. income; 8. housing; 9. relationships; 10. social functioning; 11. offending/anti-social behaviour; 12. well-being; 13. identity/self-awareness; 14. goals/aspirations; and 15. spirituality. Each of these broad domains comprised a number of more specific recovery indicators. Thus, the findings confirmed that measuring recovery is a complex process that extends beyond simple quantitative measures of drug use and offending and encompasses other less tangible social, psychological, physical, financial, and spiritual changes. Furthermore, the nature of the identified changes indicated that the boundary between recovery from addiction and simply seeking to achieve a good quality of life is unclear (who, after all, would not want better health and well-being, financial security, secure housing, reciprocal relationships and plans for the future?).

Overall, the 15 recovery domains identified were remarkably consistent across the 3 Delphi groups even though not every group identified every domain and particular groups prioritized particular domains (for example, the addiction psychiatrists did not discuss 'goals/ aspirations' and only the residential rehabilitation staff talked about 'spirituality' and 'accessing treatment and support'). In contrast, there were a number of differences between the three groups in relation to more specific recovery indicators (for example the addiction psychiatrists did not discuss 'paid employment', the residential rehabilitation staff did not refer to 'harm reduction', and the detoxification staff focused only on 'abstinence'). Lastly, there was extensive disagreement between individuals within each of the three groups regarding particular recovery changes (with some participants in each group identifying certain changes as 'very unimportant' and others scoring them as 'very important').

Such findings support emerging calls to adopt a very broad approach to assessing recovery

outcomes amongst those who misuse alcohol or drugs (Burns & MacKeith, 2012; Neale et al., 2012; ACMD, 2013). However, they also resonate with the more established tradition of conceptualizing and measuring recovery within the field of mental health. Here, it has long been accepted that recovery is a unique, active journey-like process (rather than an endpoint), and that it involves living a satisfying and purposeful life within the constraints of on-going illness (Deegan, 1988; Jacobson & Curtis, 2000; Corrigan et al., 2004; Scheyett et al., 2013). Within mental health, recovery is considered a multi-dimensional construct that consists of, and relates to, many other constructs, including coping, confidence, self-esteem, self-determination, choice, empowerment, meaning, hope, and quality of life (Anthony, 1993; Jacobson & Curtis, 2000; Corrigan et al. 2004). In consequence, there is no single measure of mental health recovery; rather there are many different measures that estimate various aspects of it (Anthony, 1993; Scheyett et al., 2013). Equally, there is no expectation that two people will have identical pathways to recovery or will use the same benchmarks to measure their journeys (Jacobson & Curtis, 2000).

Study limitations

The findings presented are limited for a number reasons. First, even though we achieved good participation and completion from the selected study samples, our data collection involved only a small number of self-selecting participants (n=25) from 3 very particular service provider groups. Second, our participants' change statements were often very similar to each other, differing only subtly in emphasis or nuance. Consequently, it was necessary to exercise researcher judgment when combining statements or keeping very similar statements separate.

Third, because we did not particularly seek consensus, we confined our data collection to 3 rounds per group and adopted a median importance score of 7 or more in our final analyses. This generated a large number of recovery indicators that would need to be further refined and then tested for their psychometric properties should we wish to use these findings to develop a future recovery assessment tool.

CONCLUSIONS

Our data show that it may be possible to agree on some broad areas of recovery and that recovery involves considerably more than simply reducing or abstaining from substance use. Nonetheless, it is much harder (and arguably impossible) to agree on particular indicators of recovery. As comments from our participants suggest, attempts to quantify an individual's recovery are fraught with problems relating to language and terminology, value judgments, measurement limitations, context, individual needs and circumstances, and personal philosophy etc. Ultimately, this must raise the question of whether producing a comprehensive single measure of recovery is possible or even desirable; as well as how instruments designed to assess recovery will need to be presented in order to make them acceptable and practical to use. It also reminds us that recovery remains a vague and contested concept that can often be difficult to distinguish from the more general desire to live an optimally healthy, secure and happy life.

Further studies exploring the views of other key stakeholder groups are needed to assess how transferable our 15 identified domains of recovery are, and we will initiate this process

utilizing both qualitative and quantitative methods with diverse groups of service users over the coming months. Our findings have, however, already indicated that the views of individuals who have experienced drug or alcohol dependence are likely to be wide-ranging, agreement on the importance of potential recovery indicators will probably be weak, and any measures of recovery identified will only ever capture aspects of a process that may change over time and place. Such hypotheses are consistent with the increasing emphasis on personalization within health and social care (Alakeson, 2007; Skills for Health, 2009; Carr, 2010), and suggest that it will be necessary to find innovative ways of measuring recovery that are psychometrically robust but also flexible enough to allow individuals experiencing addiction to identify their own needs, make choices about the support they receive, and pursue personally meaningful recovery outcomes.

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COI

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Table 1: Participant Characteristics

	Addiction Psychiatrists	Senior Residential Rehabilitation Staff	Senior Inpatient Detoxification Unit Staff
Number of participants	10	9	6
Males	6	2	4
Age (years)	42-61	36-64	44-52
Length of time working in the addictions field (years)	3-25	6-32	5-29
Location of employing organisation	• Scotland x 2 • Wales x 1 • Northern Ireland x 1 • England x 6	• Scotland x 1 • England x 8	• Scotland x 1 • Wales x 1 • England x 4

Table 2: Changes for measuring recovery (Round 1, All Groups)

Domain	Changes		
	Addiction Psychiatrists	**Senior Residential Rehabilitation Staff**	**Senior Inpatient Detoxification Unit Staff**
1. Substance use	Reductions in, increased control over or absence of consumption, cravings, withdrawals, intoxication, compulsion, injecting or harm	Decreased use, freedom from dependence, reduced cravings, less injecting, abstinence, addressing relapse, understanding triggers to relapse	Achieving abstinence/ not doing the addictive behaviour
2. Treatment/ support	Engaging with services, accepting treatment, no longer engaging with services	Using peer support & self-help recovery groups, private engagement in relevant therapies	Improved relationships with services, attending a support group
3. Psychological health	Improvements in mental health, confidence, control, capability or coping strategies	Improved mental health, dealing with trauma, reduced anxiety, improved self-belief, increased self-worth, trust, self-esteem or self-efficacy	Improved mental health, being able to identify, express & manage feelings, improved emotional balance, self-efficacy, ability to manage stress, self-acceptance or self-worth, greater trust in others, increased humility, serenity or gratitude
4. Physical health	Improvements in physical health, increased physical activity	Improved physical health, appearance or self-care, seeing a GP/ dentist, better diet/ nutrition	Improved physical health, improved physical appearance
5. Use of time	Meaningful use of time, reduced boredom, participation in leisure activities, more daily structure	Increased time spent in meaningful activity	Increased ability to impose a positive structure on own life
6. Education/ training/ employment	Engaging in education or training, increasing vocational skills, participating in voluntary work, gaining paid work	Moving towards education or employment	Volunteering, securing suitable employment
7. Income	Decreased debts, increased stability of income	Improved financial situation, addressing debts, opening a bank account	Attending to finances
8. Housing	Increased housing stability	Improved housing circumstances, living independently	Securing stable & appropriate housing
9. Relationships	Improved relationships with family, others in recovery or non-users, having meaningful relationships	Acquiring social support systems, improved relationships, moving towards emotional & functional independence, abandoning negative relationships	Improved relationships with family, improved relationships with supportive friends, choosing who you allow in your life, offering help to others, accepting help from others, increased honesty with self & others
10. Social	Gaining lifeskills,	Improved social functioning,	Increased participation in

functioning	increased involvement in society, addressing social problems, not creating problems for others in society	increased social integration, better self-management, providing service to others, getting a driving licence or ID	community groups & activities, increased community integration, 'living right'
11. Offending/ anti-social behaviour	Reduced criminal activity, no offending	Less crime & contact with the criminal justice system, no offending	Less or no criminal activity
12. Well-being	Decreased feelings of shame & guilt, increased pleasure, improved sense of well-being	Adopting a more positive outlook on life, being able to talk openly about recovery	Increased positive outlook on life
13. Identity/ self-awareness	Improved sense of self, with self-perception not focused on status as *addict*	Greater awareness of self & behaviour patterns	Better self-insight with less denial, thinking differently about oneself, increased sense of identity, retaining a slightly furtive look that says the demons are still around the corner
14. Goals/ aspirations	-	Adopting a purposeful lifestyle, having realistic goals	Making hopeful & achievable plans for the future
15. Spirituality	-	Improved spiritual well-being, attainment of hope	Maintaining a slightly holier than thou zealousness

Table 3: Measures of recovery (Round 3, Addiction Psychiatrists)

Statement	Median Score Round 3	Group Range Round 3
Substance use		
Reduced substance use	9.5	6-10
Increased control over substance use	10	7-10
Reduced injecting	10	6-10
No injecting	7	5-10
No or only low level harmful drug use	8	7-10
No longer using any illicit substances	9	5-10
No longer misusing alcohol	10	6-10
Psychological health		
Improved mental health	8.5	7-10
Feeling confident and empowered	9	8-10
Feeling 'in control'	10	8-10
Developing coping strategies	9.5	8-10
Physical health		
Improved physical health	8.5	7-10
Increased physical activity/ exercise	7	3-10
Use of time		
Increased daily structure	9.5	6-10
Increased engagement in leisure activities	8	5-10
Increased meaningful use of time	10	7-10
Reduced boredom	8	5-10
Education, training and employment		
Engaging in formal education or training	8	5-10
Participating in voluntary work	7	4-10
Income		
Increased stability of income	7.5	5-10
Decreased debts	7.5	5-10
Housing		
Increased housing stability	7	5-10
Relationships		
Improved relationships with family	8	5-10
Making friends with other people in recovery	7	5-10
Making friends who are non-drug users	8	4-10
An increase in meaningful relationships	9.5	5-10
Social functioning		
Increased involvement in society/community	8	6-10
Reduced social problems	7.5	5-10
An improved quality of life for significant others	7	3-8
Acquiring life skills	8	8-10
Offending/anti-social behavior		
Reduced offending	8	5-10
No offending	8	6-10
Well-being		
Decreased feelings of shame and guilt	8	6-10
Better self-reported well-being	9	7-10
Identity		
Improved sense of self (with self-perception not focused on status as *addict*)	8	8-10

Table 4: Measures of recovery (Round 3, Senior Residential Rehabilitation Staff)

Statement	Median Score Round 3	Group Range Round 3
Substance use		
Decreased drug/alcohol use	8	1-10
Freedom from dependence on mind-altering substances	10	1-10
Reduced cravings	7	1-8
Moving towards abstinence from prescription/mood-altering medications	7	4-10
Achieving abstinence from mind-altering chemicals, including alcohol	10	5-10
Understanding triggers to relapse	7	5-9
Taking steps to minimise risk of relapse by reminding oneself of the dangers of the first drink, drug, gamble	8	4-10
Treatment/ support		
Making use of peer support and self-help recovery groups	7	6-9
Making alliances with individuals or groups who can assist with abstinence and personal growth	8	6-10
Private engagement in relevant therapies	7	2-8
Psychological health		
Improved mental health	8	4-9
Developing a range of coping strategies for dealing with past trauma	7	1-10
Reduced anxiety levels	7	5-9
Improved self-belief	7	3-10
Increased sense of self-worth	7	7-10
Increased levels of trust	7	5-9
Increased self-esteem	8	5-10
Increased self-efficacy	8	5-10
Increased self-autonomy	8	5-10
Disclosing and dealing with traumas of the past	7	1-10
Accepting responsibility for decision-making	8	7-10
Physical health		
Improved physical health	8	7-8
Improved appearance and self-care	7	6-9
Better diet/nutrition	7	3-8
Use of time		
Increased time spent in 'meaningful activity'	8	8-9
Education, training and employment		
Moving towards further education	7	3-8
Moving towards employment	7	3-9
Being in full-time employment	7	2-10
Income		
Improved financial situation: including addressing debts and loans; opening a bank account etc	8	4-9
Housing		
Improved housing circumstances	7	4-9
Living independently	8	4-9
Relationships		
Acquiring social support systems	8	4-8
Being able to engage in positive, healthy relationships based on honesty, trust and respect	8	8-10
Improved relationships with family	8	1-9
Improved relationships with spouse/ partner	8	1-9
Improved relationship with children	8	1-9
Moving towards emotional and functional independence, including abstinence from romantic relationships	7	4-10
Moving towards independence from co-dependent family relationships	7	7-9

Abandonment of drug/alcohol/crime related relationships	8	6-10
Social functioning		
Improved social functioning	8	6-9
Increased social integration	8	5-9
Better self-management	8	7-9
Realising that recovery is part of everyday living and changes are constant	7	5-10
Offending/anti-social behaviour		
Decreased criminal activity	8	6-10
Zero offending	8	6-10
Less contact with the criminal justice system	7	5-10
Well-being		
Adopting a more positive outlook on life	8	6-10
Being able to talk openly about recovery from addiction without stigma, prejudice or shame	7	5-8
Identity/ self awareness		
Greater awareness of self, including genetic and environmental influences and behaviour patterns	7	4-9
Goals/aspirations		
Adopting a purposeful lifestyle	8	7-10
Setting realistic goals	7	1-9
Spirituality		
Improved spiritual well-being with new meaning and purpose	8.5	8-10
Attainment of hope	8	1-9

Table 5: Measures of recovery (Round 3, Senior Inpatient Detoxification Unit Staff)

Statement	Median Score Round 3	Group Range Round 3
Substance use		
Achieving abstinence/ not doing the addictive behaviour	9	8-10
Physical health		
Improved physical health	7.5	7-9
Psychological health		
Improved mental health	7	6-9
Being able to identify, express and manage feelings	8	5-9
Improved emotional balance	8	5-9
Improved self-efficacy	8	5-9
Improved ability to manage stress	8	7-9
Increased self-acceptance	8.5	4-9
Increased self-worth	8.5	6-9
Greater trust in others	7	4-9
Relationships		
Improved relationships with family	8	8-9
Improved relationships with supportive friends	8	7-9
Choosing who you allow in your life	7	4-8
Offering help to others	7	5-8
Accepting help from others	8.5	5-9
Increased honesty with self and others	8.5	7-10
Social functioning		
Increased participation in community groups and activities	7	6-9
Increased community integration	7	6-8
'Living right'	7	7-8
Identity/ self-awareness		
Better self-insight and so less denial	8.5	4-10
Thinking differently about oneself	8	5-9
Increased sense of identity	8	5-9
Education, training and employment		
Securing suitable employment	7.5	6-8
Use of time		
Increased ability to impose a positive structure on own life	9	8-10
Income		
Attending to finances	7	7-9
Housing		
Securing stable and appropriate housing	8	8-10
Offending/anti-social behavior		
Less or no criminal activity	9	8-9
Well-being		
Increased positive outlook on life	9	7-9
Goals/aspirations		
Making hopeful and achievable plans for the future	9	7-10

Table 6: Measures of recovery (Round 3, All Groups)

Domain	Change			Composite list
	Addiction Psychiatrists	**Senior Residential Rehabilitation Staff**	**Senior Inpatient Detoxification Unit Staff**	
1. Substance use	Reduced drug use, practising harm reduction, achieving abstinence	Reduced drug use, achieving abstinence, engaging with relapse prevention	Achieving abstinence	Reduced drug use, practising harm reduction, achieving abstinence, engaging with relapse prevention
2. Treatment/ support	-	Accessing peer support or self-help groups, engaging in private therapy	-	Accessing peer support or self-help groups, engaging in private therapy
3. Psychological health	Improved general mental health, confidence, coping or control	Improved coping, reduced anxiety, more self-belief, self-worth, trust, self-esteem, self-efficacy or self-autonomy, dealing with past trauma, accepting responsibility	Improved general mental health, managing feelings, improved emotional balance, improved self-efficacy, improved stress management, increased self-acceptance, self-worth or trust	Improved general mental health, confidence, coping, control, self-belief, self-worth, trust, self-esteem, self-efficacy, self-autonomy, emotional balance, stress management or self-acceptance, reduced anxiety, dealing with past trauma, accepting responsibility, managing feelings
4. Physical health	Improved general physical health, increased physical activity	Improved appearance, self-care, diet & nutrition	Improved general physical health	Improved general physical health, physical activity, appearance, self-care or diet & nutrition
5. Use of time	More daily structure, leisure pursuits or meaningful use of time, reduced boredom	More meaningful activity	Increased positive life structure	More daily structure, leisure pursuits or meaningful use of time, reduced boredom
6. Education/ training/ employment	More education, training or voluntary work	More education, moving towards employment, securing employment	Securing employment	More education, training or voluntary work, securing employment
7. Income	Increased income stability, decreasing debts	Less debts, better financial management	Attending to finances	More income stability, decreasing debts, better financial management
8. Housing	Increased housing stability	Improved housing circumstances, living independently	Securing stable & appropriate housing	Increased housing stability, living independently
9. Relationships	Improved relationships with family, non-users or peers in recovery	More social support, more positive relationships, improved relationships with	Improved relationships with family, supportive friends, choosing relationships, helping others,	Improved relationships with family (including partners & children), non-users or peers in recovery, more social support or independence, moving

		family, spouse/ partner or children, more independence, moving away from negative relationships	receiving help from others, increased honesty with others	away from negative relationships, choosing relationships, reciprocal helping, improved honesty with others
10. Social functioning	More community involvement, reduced social problems, better quality of life for others, more life skills	More social integration, better self-management, realizing change is constant	Increased participation in community groups/ activities, increased community integration, 'living right'	More community involvement/ social integration, better self-management, reduced social problems, better quality of life for others, more life skills, realizing change is constant, 'living right'
11. Offending/ anti-social behavior	Reduced or no offending	Reduced or no offending, less contact with the criminal justice system	Less or no criminal activity	Reduced offending, no offending, less contact with the criminal justice system
12. Well-being	Decreased feelings of shame & guilt	Having a positive outlook, talking openly without stigma, prejudice or shame	Increased positive outlook	Decreased feelings of shame & guilt, having a positive outlook, talking openly without stigma, prejudice or shame
13. Identity/ self-awareness	Changed identity focusing on non-addict status	Greater self-awareness	Better self-insight & less denial, thinking differently about self, increased sense of identity	Changed identity focusing on non-addict status, greater self-awareness, increased sense of identity
14. Goals/ aspirations	-	Adopting a purposeful life & setting realistic goals	Making hopeful & achievable plans for the future	Adopting a purposeful life, setting realistic goals, making hopeful & achievable plans
15. Spirituality	-	Improved spiritual well-being, attainment of hope	-	Improved spiritual well-being, attainment of hope