

ACMD

Advisory Council on the Misuse of Drugs

What recovery outcomes does the evidence tell us we can expect?

**Second report of the Recovery Committee
November 2013**

ACMD

Advisory Council on the Misuse of Drugs

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28 November 2013

Norman Baker MP
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Dear Minister,

We are writing to you in your role as Chair of the Inter Ministerial Group on Drugs (IMG), with the Advisory Council on the Misuse of Drugs (ACMD) Recovery Committee's second report.

The ACMD Recovery Committee was formed in response to an invitation from the IMG. It has been created as a standing committee of the ACMD with membership drawn from the Council plus co-opted external expertise.

The Recovery Committee's first report scoped the evidence, or lack thereof, for the many and complex factors that may contribute to recovery from drug or alcohol dependence. Its second report goes further in exploring what recovery outcomes from drug or alcohol dependence the available evidence leads us to expect. The report's key messages are as follows:

1. Recovery is a process which involves achieving or maintaining outcomes in a number of domains, not just overcoming dependence on drugs or alcohol. People generally are not able to sustain drug and alcohol outcomes without having gained or maintained recovery capital in other domains such as having positive relationships, having a sense of wellbeing, meaningful occupation of their time, adequate housing, etc.

2. We should be optimistic about recovery outcomes: research indicates that many people have periods of dependence or problematic use of alcohol or drugs in their lives but that most overcome this. The UK drug strategies' focus on recovery is welcomed.
3. However, our optimism about recovery should be tempered. Evidence suggests that different groups are more or less likely to achieve recovery outcomes. For some people, with high levels of recovery capital (e.g. good education, secure positive relationships, a job), recovery may be easier. For others, with little recovery capital or dependent on some types of drugs (especially heroin), recovery can be much more difficult and many will not be able to achieve substantial recovery outcomes.
4. Recovery is very ambitious as it is asking some people to achieve more than they had before they became dependent on drugs or alcohol. Many people who develop severe dependence have pre-existing problems or issues. People whose lives are dominated by drug and alcohol dependence often incur significant collateral damage in addition, e.g. health harms. Overcoming drug or alcohol problems is a difficult enough process for most people but this 'extra stretch' of overcoming pre-existing problems and coping with the collateral damage incurred through years of substance dependence is a huge leap and our ambition for recovery should be tempered with realism.
5. For those with severe and complex dependence and other problems, recovery can take years and is a long-term battle requiring long-term support. It may not be possible to tell whether someone has achieved stable recovery until five years after they have overcome their dependence on drugs or alcohol.
6. Drug and alcohol treatment is an important and sometimes critical part of a recovery journey for many with severe dependence and other problems. Treatment has been demonstrated to be cost effective and the investment and prioritisation of recovery-orientated substance misuse treatment in the UK is welcomed. Evidence shows the quality of treatment makes a difference to recovery outcomes and should ideally be person-centred, optimistic, designed to help in a number of outcome domains, well-managed, and delivered by a skilled workforce.
7. Treatment and recovery systems need to be designed to help people make progress, though multiple relapses are the norm: a recovery process can require long-term support over many years and systems should be designed to take a long term or 'extensive' approach – especially for the UK population of ageing heroin users. If people cannot overcome their drug or alcohol dependence, they should be encouraged to act responsibly and protect themselves and others from harm. Non-evidence based approaches such as enforced detoxification should be discouraged as these will only lead to relapse.
8. We can increase recovery potential by helping people achieve outcomes in recovery domains such as positive relationship, education and training, health and wellbeing, meaningful activity.
9. The roles of recovery community organisations and mutual aid, including Alcoholics Anonymous, Narcotics Anonymous and SMART Recovery, are to be welcomed and supported as evidence indicates they play a valuable role in recovery.

10. Society as a whole, local communities, employers and others should all be encouraged to welcome and support people in their process of recovery from drugs or alcohol dependence. This may require tackling stigma against those who are seeking help or on a recovery journey and trying to turn their lives around.

The report also makes a series of recommendations based on the evidence reviewed and the key messages above. We welcome an opportunity to discuss these and the report with the IMG in due course.

Yours sincerely,



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Chair, ACMD



Annette Dale-Perera
Co-chair, ACMD
Recovery Committee



Richard Philips
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cc:

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Jane Ellison MP (DoH)
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CONTENTS

Executive summary, conclusions and recommendations	9
Introduction.....	9
Drug and alcohol recovery outcomes rates.....	11
Natural recovery.....	12
Drug and alcohol recovery outcome trends and substance misuse treatment.....	12
Human capital (health and wellbeing) recovery outcomes.....	13
Social capital outcomes.....	14
Physical and economic capital outcomes.....	14
Cultural capital outcomes.....	14
Conclusions.....	15
Recommendations.....	18
Introduction and methods	19
The committee’s work.....	19
The scope of this report.....	19
Background	21
Summary: Background and methodological considerations.....	21
The emergence of recovery as an important component in UK drug strategies.....	21
Methodological issues when considering outcomes studies.....	22
What is dependence?.....	23
What is recovery?.....	24
Rates of dependence and recovery from drug and alcohol dependence	26
Summary: Rates of recovery from dependence on drugs and alcohol.....	26
The available evidence on recovery outcomes.....	26
USA population studies of substance misuse problems, dependence and remission.....	26
International outcome studies of adults treated for drug or alcohol problems.....	27
UK evidence on rates of dependence and recovery from drug and alcohol dependence.....	32
Recovery outcome trends during treatment.....	37
Human capital – recovery outcomes	38
Summary: Human capital (health and wellbeing) recovery outcomes.....	38
Health and wellbeing.....	38
Social capital – recovery outcomes	43
Summary: Social capital recovery outcomes.....	43
Relationships, family and community.....	43
Mutual aid.....	43
Physical and economic capital – recovery outcomes	45
Summary: Physical and economic capital recovery outcomes.....	45
Crime and criminal convictions.....	45
Property and housing.....	46
Money – personal finance.....	46
Employment.....	46
Cultural capital – recovery outcomes	48
Summary: Cultural capital recovery outcomes.....	48
Social conformity and identity.....	48
Culture, values and stigma.....	48
Drug and alcohol treatment impact on recovery outcomes	50
Drug and alcohol outcomes.....	50
Morbidity and mortality.....	50
Employment.....	51
Crime.....	51
Cost-effectiveness.....	51
Conclusions	52
Recovery and recovery capital.....	52

Reasons for optimism	52
Reasons for tempered optimism	52
Recovery is a very ambitious concept, particularly for some groups	52
For some, recovery is a long-term process requiring long-term support	53
The role of drug and alcohol treatment	53
Enable sustained recovery by building recovery capital	54
Supporting sustained recovery: a longer-term approach	54
Recovery in communities	54
Recommendations	55
Appendix A: Glossary and definitions	57
Recovery capital	57
Treatment	57
Mutual aid	57
Remission, recovery and abstinence	57
Appendix B: Contributors to the report	59
ACMD Recovery Committee members	59
Presenters	59
Observer officials	59
ACMD members	59
Secretariat	60
References	61

EXECUTIVE SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This second report from the Recovery Committee of the Advisory Council on the Misuse of Drugs (ACMD) explores 'what recovery outcomes the evidence tells us we can expect from drug and alcohol dependence'. This paper builds on our first report which scoped evidence around the topic of recovery: 'Recovery from drug and alcohol dependence: an overview of the evidence'.¹

Exploring the concepts

What is recovery?

UK and USA consensus groups,^{2,3} and UK drug strategies^{4,5,6} define recovery from drug and alcohol dependence as a *process*, which is different for each person, which has key components of overcoming dependence, plus maximising health, wellbeing and social integration and contributing to society.

However, definitions of recovery are contested. Some stakeholder groups define recovery purely in terms of having achieved abstinence from the substance of dependence, or acknowledge other recovery outcomes but see abstinence as a necessary condition to define someone as being in recovery. Some researchers examine recovery purely in terms of changes in drug or alcohol use or dependence: USA researchers use the term 'remission'¹¹ rather than recovery when discussing substance use outcomes – indicating a person no longer meets criteria for dependence though they may be either abstinent or using a substance in a non-dependent way.

The ACMD Recovery Committee takes the view that the concept of recovery clearly covers a number of outcome domains and is a wider concept than purely overcoming drug and alcohol dependence. We take the view that overcoming drug or alcohol dependence alone, is not recovery and definitions of recovery that do not include reference to wide outcome domains are inadequate and may lead to ineffective intervention strategies.

Central to the concept of recovery is voluntary control of drug and alcohol use,¹ but the process of recovery also involves working towards, and hopefully achieving, positive outcomes in a range of other recovery capital domains highlighted by Granfield and Cloud.⁷ These are: social capital outcomes (support from and obligations to related to family and group relationships); human capital outcomes (health and wellbeing, aspirations, educational achievements etc.); physical capital outcomes (tangible assets such as property and money); and cultural capital outcomes (values, beliefs and attitudes linked to social conformity and the ability to fit into dominant social behaviours).

This approach to recovery domains and outcomes is illustrated in Figure 1 overleaf.

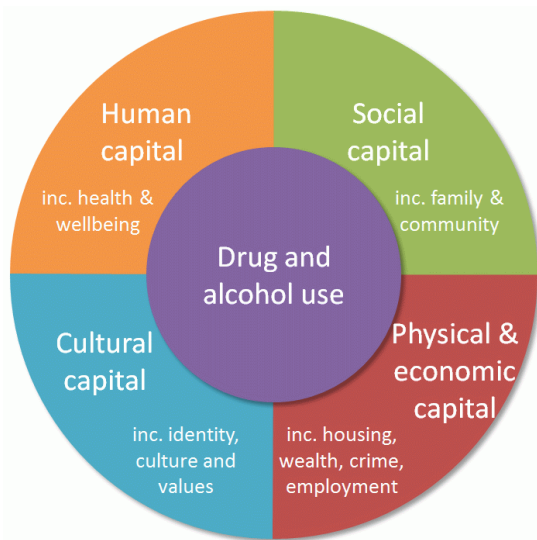


Figure 1: Recovery outcome domains.

Drug and alcohol dependence: a spectrum disorder

Drug and alcohol misuse and dependence can cover a range or spectrum of severities of problems experienced by different people or even the same person at different times. Dependence is mediated by a range of factors including: the nature of the substance consumed; regularity and quantity taken; the method of consumption; the setting; and the individual. In addition, evidence in this report indicates that those with higher ‘capital’ may be less likely to develop dependence on some substances, and more likely to overcome that dependence when they do. Thus, individuals suffering from drug or alcohol dependence and ‘in recovery’ are very heterogeneous, with significant differences related to the substance/s or dependence; the severity of dependence; and the social, personal, economic and health-related capital (assets or deficits) someone may have.

There is evidence from US population studies,⁸ that most people who experience a period of dependence on alcohol, cocaine, or cannabis, overcome that dependence and remission is the ‘norm’. Authors cite that half experience remission after 14 years for alcohol dependence, half experience remission after six years for cannabis dependence and half experience remission after five years for cocaine dependence.

Evidence from other studies, mainly of treatment populations, indicates dependence and recovery has a more complex course characterised by periods of dependent use, attempts to overcome dependence by abstinence or reduced use, non-dependent use and relapse – often over many years. Studies of those in treatment for heroin dependence indicate remission is not the norm and it has been described as a ‘chronic, relapsing condition’.^{9,10}

Both scenarios may be true: most people do overcome a period of substance dependence in their lifetime but some groups have a greater probability of not achieving remission and other recovery outcomes. This report examines current evidence on what we know about recovery outcomes for different population groups.

The concept of a recovery as a process, rather than recovery as an end-point is important as it may not have an end-point. For some with severe or complex dependence and other issues, their recovery journey may involve a lifestyle change that requires ongoing effort. Some may achieve a range of recovery outcomes in a number of domains including abstinence or non-dependent use. Others may not achieve the positive recovery outcomes in any domain, or may only improve in some domains. This report indicates this may be particularly of note among those with severe heroin dependence, those with low social and personal capital prior to becoming dependent, and/or those who incur high collateral damage while dependent (e.g. severe physical health problems or cognitive impairment though alcohol dependence).

Challenges in analysing the evidence base on recovery from dependence

There is a large body of evidence relevant to our understanding of recovery, though this is so diverse it can be difficult to interpret. Differences that make comparisons between studies difficult include the following.

- Differences in how recovery outcomes are defined. For example, comparing studies that measure ‘remission’ with those that study abstinence is comparing different things, as the latter is arguably a subset of the former.¹¹
- Differences in assumed success ‘cut-off points’ or how many years of sustained behaviour change is defined as a ‘success’. Short-term studies of recovery may mask future relapses and inflate the numbers assumed to have stable positive drug or alcohol recovery outcomes. White¹¹ suggests that sustained drug and alcohol recovery outcomes can be only reliably judged five years after dependence (even though a minority may be still likely to relapse).
- Differences in how those ‘lost to follow-up’ are handled e.g. whether they are counted as having positive or negative recovery outcomes.
- Studies examine different severities of dependence, with different definitions including disorders, problems and dependence. This may be like comparing apples and pears, with more severe problems likely to be associated with different recovery outcomes.

This tangled evidence base creates challenges in developing an informed approach to recovery but this report aims to identify some consistent and substantiated themes. The Recovery Committee has paid particular attention to evidence reviews and identified significant single studies, but has not undertaken detailed analysis of all the primary papers. We note that some of the differences in outcomes reported here may be an artefact of the different definitions and methods used in the underlying research and that a more detailed analysis may yield a greater understanding of the differences in outcomes presented here.

Outcomes research is, by its nature, looking at historical data. It is reasonable to assume that we may be able to learn how to maximise recovery outcomes for different groups and improve these outcomes in the future by examining this evidence more closely.

Drug and alcohol recovery outcomes rates

Population studies tend to examine large population datasets to establish whether individuals who once met criteria for dependence (or disorders) still meet criteria after a defined time period. These studies are mainly from the USA. They indicate different substances have different drug and alcohol remission rates with a range in remission rates of 44% to 80% for drug and alcohol disorders. As a comparison, the substance remission rate for smoking in similar USA studies is 51%.¹¹ Other studies found that lifetime remission was ‘the norm’ for alcohol, cocaine and cannabis.⁸

A review of 276 international outcome studies of adults after treatment for substance dependence¹¹ found an average drug or alcohol remission outcome rate of 49.8%, with wide variation in rates between studies. Adult average remission rates appear to have improved over time from 40.4% in the 1940s to 54.6% in 2005–11. Authors reflect that this may be an artefact of evolving research methodology rather than reflecting a real change.

The 50 adult studies published since 1970 that differentiated between rates of remission and abstinence found an average remission rate of 52.1% (range 20% to 80%) and an abstinence rate of 30.3% (9%–75%). Studies thought to be of a higher methodological quality found:

- an average remission rate of 44% in the 17 studies with samples greater than 300; and
- an average remission rate of 42.5% in the eight studies with follow-up periods of five years or more.

A review of 60 international outcome studies of adolescents¹¹ who had treatment for drug or alcohol had an average remission rate of 42%, with wide variation in rates between 4% and 85%. Unlike the adult outcome studies, adolescent remission rates had not improved over time and average remission rates had fallen from 54% in 1979 to 31% in 2011.

There is research evidence that there are different rates of remission from different substances.

Heroin

There is research evidence that the majority of heroin-dependent Vietnam veterans returning to the USA were able to achieve sustained recovery in a relatively short time upon returning 'home'; however, a minority were not able to achieve recovery quickly or, in some instances, at all.¹²

However, there is strong research evidence from multiple studies that indicate that positive drug recovery outcomes from heroin dependence in local 'home' communities are less common and less stable than drug recovery outcomes from most other substance addictions.^{11,13}

A meta-analysis of international long-term outcome studies found remission rates for heroin ranged from 23% to 93% (after three to 33 years). The percentage expected to become abstinent or non-dependent each year was between 9% and 22%.¹⁴

A key study of 581 heroin-using men followed up after 33 years found half had died. Of the remainder, 43% had been stably abstinent for five years or more.¹⁵

One 30-year study of heroin users discerned four distinct groups of survivors: 25% rapidly decreased heroin use and quit ten to 20 years from initiation; 15% achieved a more moderate decrease before quitting after ten to 20 years; 25% achieved a gradual decrease in heroin use over the 30-year follow-up; and 25% did not reduce their heroin use at all, and were still using at follow-up. The 40% who attained stable remission had spent five to eight years in opioid substitution treatment prior to quitting.¹⁶

Multiple studies also indicate that those who are dependent on heroin and crack cocaine have poorer drug recovery outcomes than those who are dependent on either of these drugs alone.^{17,18}

Alcohol

Long-term outcome studies of remission from alcohol dependence typically find rates of remission from dependence of around 50%, with wide variation (37% to 82.5%). Remission includes abstinence and drinking at non-dependent levels.¹¹

Cocaine

There is conflicting evidence on the drug recovery outcomes from cocaine.¹¹ Population studies indicate rates of remission as high as 76% after ten years and 99% lifetime remission rates. However, studies of those in treatment for cocaine dependence indicate around 25% were still using cocaine weekly after five years. These differences could be due to different populations being studied with greater severity of cocaine dependence with less positive recovery drug outcomes among those in drug treatment.

Cannabis

A review of studies of remission from cannabis dependence indicate rates of remission of 4.7% after one year, 46% after four years and 66% after ten years, with a 97.2% lifetime remission rate.¹⁹

Natural recovery

There is emerging evidence and population study research that indicates that many people have periods of drug or alcohol dependence and then recover without access to formal treatment interventions.^{11, 20} The process of 'natural recovery' without formal treatment interventions is important to recognise, not least because in most countries, drug and alcohol treatment is only available for a minority of those with dependence.^{21, 22} However, there is a paucity of detailed studies of natural recovery journeys and most long-term studies of drug and alcohol recovery outcomes have examined those initially in drug or alcohol treatment, or those who have periods of time in treatment during the study period.

Drug and alcohol recovery outcome trends and substance misuse treatment

Drug and alcohol treatment is an important part of a recovery journey for many, particularly those with severe dependence. There is extensive evidence that participating in good quality treatment is protective of an individual's health, reduces crime^{23,24,25} and can reduce the spread of blood-borne virus transmission associated with drug injecting. Multiple studies have shown that drug and alcohol treatment is cost-effective,²⁶ beneficial

to individuals and society²⁷ and can play a very important role in the initial process of recovery. However, the impact of drug and alcohol treatment is thought to fade quickly after someone has left and treatment alone does not create sustained recovery outcomes in individuals.²⁸

Multiple UK and international studies of drug and alcohol outcomes for those in treatment for substance dependence show those with drug dependence having marked reductions in drug and alcohol use during treatment^{29,58,66}, and drug and alcohol use reduces most within the first six months to a year of treatment.¹⁸ Evidence indicated that those recruited (to studies) from residential treatment, which *de facto* require a commitment to abstinence from the outset, as opposed to community substance misuse treatment, generally report lower drug and alcohol use at follow-up.³⁰

UK research studies indicate:

- English drug treatment outcome research (1996 to 2000) showed that one-third to half who entered treatment (mainly heroin and/or crack cocaine users) were abstinent from their drug of dependence after four to five years, though many of the heroin users in this cohort remained in opioid substitution treatment. For drug users in treatment who also drank heavily, alcohol consumption was not impacted on by treatment.⁵⁸
- Scottish treatment outcome research which followed up drug users (mainly heroin users) for 33 months found around 6% of women and 9% of men had been abstinent from all drugs for the previous three months.³¹
- English drug treatment outcome monitoring since 2008 shows that, in the first six months of treatment, 41% to 65% of people who entered treatment stopped using their 'index' illegal drug (mainly heroin), and reductions in use were made by a further 9–24% of people. Thus between 53% and 73% of those in drug treatment in England reduced or stopped their illegal drug of dependence within six months of treatment. However, many of those individuals being treated for heroin dependence were in receipt of opioid substitution treatment.⁹⁸
- English data on 341,000 people in drug treatment from 2005 to 2012 (mainly heroin and crack users) showed that one-quarter completed treatment and did not return in the study period – which authors interpreted as indicating people had overcome dependence. Furthermore, the more recently people entered drug treatment the more likely they were to complete treatment and not re-present (one-third of new people).¹⁰⁵

It is important to note that research is clear that enforced detoxification or time-limited opioid substitution treatment causes relapse and increased risk of harm to the individual and communities and is not recommended.³²

In summary, although good quality drug and alcohol treatment has been demonstrated to help the majority of individuals reduce or stop their drug and alcohol dependence, evidence indicates the process of achieving these outcomes is neither quick nor automatic for most. Some people do not overcome drug or alcohol dependence and some heroin users only stop using heroin with the aid of substitute opioids for a period of time. Many of those who overcome dependence do not do so by being abstinent, and of those that do achieve abstinence, many relapse after treatment or multiple times during their recovery process.

Human capital (health and wellbeing) recovery outcomes

There is research evidence, from multiple studies, that those who have had drug or alcohol dependence generally have a shorter life expectancy than the general population.^{16,33} There is also evidence that dependence on drugs and alcohol is associated with a range of diseases, infections and ill health.^{34,35}

Heroin dependence and alcohol dependence are particularly associated with high risks of morbidity and mortality.^{34,36,37,38,39}

Mortality and morbidity risks may be due to dependence itself as well as the ‘lifestyle risks’ associated with drug or alcohol dependence such as poor nutrition, poor levels of hygiene, living in deprivation or poverty and increased exposure to violence.^{40,41,42,43}

There is a lack of evidence on mortality and morbidity for some substances, including morbidity risks of cocaine and other stimulants, prescription opioids and new and emerging drugs.

There is research evidence that there is a genetic element to dependence, with some people likely predisposed to develop dependence on drugs or alcohol.⁷ There is also emerging evidence that this ‘genetic loading’ may be mediated by environmental factors – particularly for women.⁴⁴

Social capital outcomes

There is evidence that those who come from troubled or dysfunctional families are more likely to develop drug or alcohol dependence than others.⁴⁵

There is evidence that families or partners may hinder recovery outcomes (if they are dysfunctional or have dependence issues themselves)^{46,47} or aid recovery outcomes (if they are supportive).⁴⁸ There is emerging evidence that supportive local communities can enable recovery outcomes.^{49,50}

There is evidence that involvement with mutual aid can significantly improve recovery outcomes, particularly drug and alcohol outcomes, with most research from studies of 12-step fellowships within the USA.^{51,52} Some factors including more active or frequent involvement with mutual aid and becoming a sponsor are associated with greater improvement in drug and alcohol outcomes.^{53,54,55}

There is evidence that active encouragement to engage with mutual aid enables better drug and alcohol outcomes,⁵⁶ although coerced involvement is not beneficial.⁵⁷

Physical and economic capital outcomes

The relationship between substance dependence and crime is complex. There is research evidence that some types of dependence are associated with higher levels of crime than in the general population (for example acquisitive crime among those who are heroin dependent, drink-driving by those who are alcohol dependent).^{58,59} There is research evidence that drug or alcohol treatment significantly reduces substance-driven offending.⁵⁸

There is evidence that having a criminal conviction can significantly limit life opportunities and hinder a range of recovery outcomes.²

There is evidence of greater prevalence of drug and alcohol dependence among those with housing problems⁶⁰ and that stable housing is beneficial to drug and alcohol recovery outcomes.^{61,62,63}

There is emerging evidence that drug dependence is more common among those living in social deprivation,⁴² and that debt is common among those with drug dependence.⁶⁴

There is conflicting evidence on the impact of wealth on alcohol dependence.¹¹

There is evidence that the rates of employment among people in treatment for drug dependence are lower than average^{58,65} especially in Britain⁶⁴ and that this outcome is more impervious to change than other outcome measures.^{66,67,68} Those unemployed upon seeking treatment tend to remain unemployed at follow-up and vice versa.

Rates of employment among those with alcohol dependence appear to be more variable.³⁴

Cultural capital outcomes

There is evidence that social conformity and culture have an impact on a range of recovery outcomes.

Many heroin-dependent Vietnam veterans from the USA were able to achieve sustained recovery in a relatively short time upon returning 'home'; however, a minority were not able to achieve recovery quickly or, in some instances, at all.¹²

There is emerging evidence that many of those in recovery go through an 'identity shift' during the process of recovery from an integral part of their self-identity being a 'drug user' or a 'drinker', to being someone who is abstinent or has 'normal patterns' of use.^{69,70}

There is emerging evidence that the building of non-substance-using family and social support networks is crucial to achieving social and drug and alcohol recovery outcomes.⁷¹ Some researchers comment that there is higher cultural fertility for abstinence and achieving drug and alcohol recovery outcomes in some countries than in others.⁷²

There is emerging evidence that stigma in local communities can adversely impact on a range of recovery outcomes² and, in particular, can discourage those with dependence from seeking help² and can inhibit their chances of employment and social re-integration.²

Conclusions

Recovery and recovery capital

The recovery process necessitates achieving or maintaining outcomes across a number of domains. These domains appear to be inter-related and changes in recovery capital in one domain may impact on other recovery domains. Those with greater capital in a number of domains appear to be more successful in achieving voluntary control over their substance dependence.

This review indicates that negative health outcomes may impact on recovery potential in other domains e.g. a modest long-term disability can make achieving social re-integration and employment outcomes more difficult. Similarly, if someone has incurred criminal convictions as a result of drug or alcohol dependence, this may also compromise their ability to achieve recovery outcomes in relation to social re-integration. The evidence that employment outcomes are among the most difficult to achieve may be due, in part, to the impact of limited achievement of recovery outcomes in other domains.

We should also be mindful of what we do not know: emerging evidence in the field of genetics for many health conditions indicates that some people have more of a propensity to develop a problem – or overcome that problem. How 'genetic loading' applies to drug and alcohol dependence and recovery is an area that merits further research.

Where an individual has limited capital in a number of domains, overcoming severe drug or alcohol dependence or abstinence without progress in other recovery domains is rarely sustained.

This model of recovery domains has the potential to enable our understanding of the risk and resilience factors that influence individual drug or alcohol dependence. If the resilience or outcomes in recovery capital domains are improved, it is likely that voluntary control of drug and alcohol dependence may increase. It therefore follows that any understanding of recovery that does not include reference to these wider outcome domains is limited and may lead to intervention strategies that may not be effective.

Reasons for optimism

There are reasons to be optimistic about the recovery outcomes. Evidence suggests that most people will achieve a range of recovery outcomes during their recovery process, especially with support. Many do achieve sustained control over their drug and alcohol dependence and achieve other recovery outcomes and there is reason to believe sustained recovery outcomes can be improved. The evidence supports the focus on recovery in UK national drug and alcohol strategies and growth in recovery-orientated treatment interventions, recovery community organisations and mutual aid.

Reasons for tempered optimism

Evidence indicates that different groups of people in recovery will have different recovery outcomes based on a range of factors including: their profile and experiences prior to developing dependence; the substances they are dependent on; their recovery capital; access to drug and alcohol treatment and the quality of that treatment; and the collateral damage they have incurred. However, evidence clearly indicates that not everyone with drug and alcohol dependence will overcome dependence and achieve positive drug and alcohol outcomes. This is a complex area, as evidence suggests that recovery outcomes for other types of drug dependence are better. Long-term studies of those with heroin dependence indicate that we can expect high premature death rates in this group with less than half of survivors achieving remission.¹³ This clearly has implications for the current drug treatment population in the UK.

Recovery is a very ambitious concept, particularly for some groups

Evidence indicates that those with severe dependence are more likely to have had problems or issues prior to becoming dependent. Drug and alcohol dependence and associated lifestyles can incur significant collateral damage including health problems, economic difficulties or criminal involvement, unemployment etc. The concept of recovery is therefore highly ambitious as it is asking individuals to not only overcome their dependence but also achieve positive outcomes in health, social and economic functioning that some have never previously had – and all while also trying to manage the consequences of significant collateral damage.

Of particular note is the significant damage to health incurred by many with dependence, including higher rates of premature death, illness and disease. Overcoming drug or alcohol dependence is a difficult process for most people, especially when they have incurred collateral damage. The ‘extra stretch’ to improve health and wellbeing and be functioning and participating members of society (particularly for those from a deprived background, on the fringes of society, and who have never been formally employed) is a huge leap for many. The ambition of recovery should be tempered with realism when thinking about how society can help people maximise recovery outcomes – particularly for those with pre-existing problems and collateral damage. A balance is required between an optimistic approach required to maximise recovery outcomes, and a pragmatic approach, without prejudice or stigma against those who cannot achieve positive recovery outcomes. This group may require extended access to healthcare, treatment and support to help manage their lives and minimise the potential collateral damage of active drug and alcohol dependence on themselves and others.

For some, recovery is a long-term process requiring long-term support

Evidence is clear that, for those with severe and complex drug and alcohol dependence and other problems, recovery is rarely short term and is often characterised by periods of use, dependence, attempts at abstinence and relapse. It can be a long-term battle requiring long-term support and a fundamental change in lifestyle. As relapse is common, it may not be possible to judge whether someone ‘achieved stable drug and alcohol recovery outcome’ until five years after cessation of dependent use.

This has implications for the support and treatment which may be required to maximise recovery outcomes. Those in recovery may require support over a long period of time, that can help them through repeated relapses and attempts to overcome dependence and that can help them build recovery capital in a range of domains including social relationships and networks, health and wellbeing and economic capacity.

The role of drug and alcohol treatment

Drug and alcohol treatment is an important and sometimes critical part of a recovery journey for many, particularly those with severe dependence and other problems. The recent years of prioritisation of, and investment in, drug treatment in the UK are to be commended. Evidence supports a continued investment in recovery-orientated treatment for drug and alcohol dependence. Evidence is unequivocal that good quality, evidence-based drug and alcohol treatment can help many people overcome dependence and achieve positive drug and alcohol outcomes. Treatment has been proven to be cost-effective to society and a huge asset to local communities, individuals suffering from drug and alcohol dependence and their families. Access to evidence-based treatment is therefore paramount.

Evidence indicates that the quality of treatment does impact on recovery outcomes and treatment should be person-centred, recovery-orientated, optimistic, well managed and delivered by a skilled workforce, with ‘success’ modelled by those in recovery. Because recovery from dependence is often a long-term process characterised by relapse, treatment and recovery systems should also be designed to take this into account and not reject or stigmatise people who relapse. The ACMD cautions against treatment which detoxifies people against their will or imposes time-limited opioid substitute treatment as both these approaches are not in line with the evidence base and are likely to result in relapse and increased risk of harm to individuals and communities.

Individuals should be encouraged and assisted to make progress in achieving positive drug and alcohol outcomes during their treatment and recovery journey and, if they cannot, encouraged to act responsibly, to reduce harm to themselves and others.

Evidence indicates that drug and alcohol treatment can play a very important role in the initial process of recovery. The impact of ‘traditional’ treatment which purely focuses on treating dependence is thought to fade relatively quickly after someone has left and treatment alone does not create sustained recovery outcomes in individuals. Person-centred, recovery-orientated treatment and recovery support is therefore advocated, comprising clinical treatment, psychosocial interventions, visible examples of recovery from mutual aid and help to build recovery capital in a number of domains.

Enable sustained recovery by building recovery capital

Achieving sustained drug and alcohol recovery outcomes appears to be linked to the quality and extent of ‘recovery capital’ an individual has – or can build during a recovery process. This includes: the quality of an individual’s non-dependent social networks; finding meaningful activity; quality of housing; health and wellbeing and how they economically sustain themselves. Those who experience ‘recovery as the norm’ are likely to be people who have high recovery capital in a number of domains. For those with poor recovery capital from the outset, who have incurred collateral damage during drug- or alcohol-dependent lifestyles, recovery may be the exception especially if they are living in deprivation, on state benefits, unemployed or with a criminal record, with poor health and a paucity of recovery-orientated social networks.

Evidence on the positive role of recovery community organisations and mutual aid to help people build positive recovery-orientated social networks and capacity build local communities is compelling. Therefore a focus on helping individuals build recovery capital in a range of domains and re-integrate into society during a recovery journey is very important.

Supporting sustained recovery: a longer-term approach

Sustained recovery depends on having recovery capital in a number of domains, only one of which is drug and alcohol dependence. This can pose challenges for stakeholders who wish to incentivise improved recovery outcomes. Planning targets and incentives that focus solely on drug and alcohol use may encourage too narrow a focus on this outcome domain without interventions to improve recovery capital necessary to sustain recovery e.g. positive social networks. Similarly, drug and alcohol outcomes measured six months or a year after cessation of dependence tell us very little about the strength of sustained recovery and their progress in a wider range of recovery outcome domains. A narrow focus on only the drug or alcohol use at the expense of this wider approach may be counter-productive and lead to poorer outcomes across *all* domains.

If society does want to support people to achieve recovery from drug and alcohol dependence, a long-term approach is required that supports the process of a radical shift in lifestyle and many years of supported effort. Sustained recovery requires an *extensive* approach – efforts to support change across the range of outcome domains for a number of years, especially for the UK population of ageing heroin users. This task might initially be supported by treatment, but may also benefit from recovery communities, mutual aid and wider social, cultural and economic systems to support the recovery journeys of individuals.

Recovery in communities

Society as a whole will need to welcome and embrace those trying to achieve recovery, from employers to local communities, or they will not achieve the support and social re-integration necessary to sustain freedom from dependence. All members of society have a part to play to create communities where recovery from drug or alcohol dependence is possible and sustainable, including tackling stigma against those seeking help with drug or alcohol problems or those on a recovery journey.

Recommendations

The ACMD recommends that:

- Policy makers, commissioners and treatment and recovery providers should look at the different populations of those dependent on drugs or alcohol or in recovery separately (or segment the population) to gain a better understanding of the recovery potential of different groups and target interventions more appropriately.
- Policy makers and commissioners of local systems should take an extensive or longer-term approach to recovery from drug and alcohol dependence, with caution around policy initiatives and local systems that expect recovery to occur in the short term for the majority who require treatment without longer-term interventions to support sustained recovery.
- Local commissioners and providers of recovery-oriented systems should support initiatives to build recovery capital in a *range* of recovery outcome domains to enable sustained recovery. A narrow focus on drug and alcohol dependence outcomes without helping individuals build broad-based recovery capital will not maximise recovery outcomes – especially for those with severe and complex dependence on heroin, crack or alcohol and other co-existing problems acquired prior to dependence or during dependence.
- Commissioners, providers, mutual aid groups and local communities should support the development of recovery-orientated drug and alcohol treatment systems.
- The focus on recovery from heroin dependence is welcome but we urge an evidence-based approach which tempers optimism with a recognition that achieving recovery outcomes from heroin dependence is very challenging, especially for those living in a state of ‘capital deprivation’. The push for recovery-orientated opioid-medication-assisted treatment (without blanket time limits) with interventions to maximise outcomes in all recovery domains is commended and should be supported by commissioners and providers.
- Local commissioners and providers should invigorate a focus on achieving health and wellbeing outcomes, especially for those with alcohol and heroin dependence.
- Development of UK mutual aid and recovery community organisations is positive and should be encouraged in local communities by local commissioners, providers and other stakeholders.
- Initiatives should be implemented to tackle stigma around recovery from drug and alcohol dependence, especially among employers, media and local communities. A culture should be created where recovery is acceptable and, where possible, celebrated.
- Government should commission additional work to examine, in depth, international recovery outcome studies to understand the variation in outcome results in similar groups and to glean good practice from studies yielding higher rates of recovery on how to maximise recovery outcomes among different groups (e.g. different substances, genders and ages).
- Government should commission UK long-term studies of recovery from drug and alcohol dependence (not just among those who receive formal treatment), to inform policy and practice.

INTRODUCTION AND METHODS

The committee's work

The Recovery Committee of the ACMD was formed in response to an invitation from the Inter-Ministerial Group on Drugs (IMG). It is a standing committee of the ACMD with membership drawn from the ACMD and co-opted external expertise.

The Recovery Committee supports the ACMD in its duty to provide evidence-based advice to government on recovery from dependence on drugs and alcohol and (later in its work) how best to prevent drug and alcohol misuse and the harms it causes. It is doing this by examining the wide range of potential themes that could contribute to recovery, reviewing the evidence for their contribution, identifying priority areas for action, and producing guidance for those involved in the strategy, commissioning and delivery of interventions responding to drug and alcohol misuse.

The remit of the Recovery Committee concerns recovery from dependence on drugs and alcohol, not use of drugs or alcohol *per se*.

This is the second output of the ACMD Recovery Committee, building on the scoping report published in January 2013. The aim is to publish three reports per year, providing evidence-driven analysis to support discussion and decisions around the issue of recovery from drug and alcohol dependence.

Each report will be based upon a standardised procedure designed to collate a wide range of evidence⁷³ which was operationalised by the British Association for Psychopharmacology to produce its guidelines.⁷⁴ This process aims to allow for transparency around how the Recovery Committee hears its evidence and draws its conclusions.

Consistent phraseology has been used throughout the body of the report to indicate the strength of the evidence found.

- Strong research evidence – evidence from Cochrane review or high quality randomised controlled trials (RCTs)
- Research evidence – evidence from controlled studies or quasi-experimental studies
- Emerging research evidence – evidence from descriptive or comparative studies, correlation studies, surveys or evaluations
- Expert panel evidence – evidence from expert panels
- Expert-by-experience evidence – evidence from those with lived experience
- Lack of evidence – no evidence for or against either way
- Conflicting evidence – situations where some evidence supports a hypothesis and other evidence does not

The scope of this report

One area of debate over the last three years has been the question of what are 'realistic' expectations we should have concerning rates of recovery from drug or alcohol dependence. At worst, this has been a polarising debate, which has sometimes focused on the role and efficacy of drug and alcohol treatment in initial recovery, particularly for those with heroin dependence. At one end, there are views that recovery from dependence is rare and at the other end of the debate is the position that everyone can and should overcome dependence and achieve sustained recovery in a short-time scale.

A number of key issues have contributed to differences and polarised positions within this debate. Firstly, terminology: different authors and 'schools of thought' use the same words to mean different things and different terms to mean different things. The language of recovery and its multiple inferred meanings may not help provide clarity or create a clear vision. We have created a glossary of terms (Appendix A) to be clear about

the terminology used in this report. Secondly, this debate has not been adequately underpinned by a reasoned analysis of the available evidence.

Given the evidential, language and methodological complexities of this area (as outlined below), it is not realistic to expect clear and unambiguous answers concerning what recovery outcomes we may expect. However, this report aims to draw together the evidence that is available and set this out along with an explanation of the limitations in order to build an understanding of what recovery outcomes can be achieved. We take the view that this may provide an evidence-based platform on which we can base policy and practice. Outcome studies, by their nature, study the past and therefore reflect communities, trends, people and local systems that may be different in the present day. By looking at what recovery outcomes have been achieved in the past, we may be able to influence and improve on what recovery outcomes we can achieve in the future if we use evidence to optimise interventions, systems, and local communities.

BACKGROUND

Summary: Background and methodological considerations

Recovery from dependence has emerged as a new focus and priority in the national drug and alcohol strategies in the UK in the past five years.

There are many definitions of recovery – some of which are contested. This document draws on definitions of recovery from drug or alcohol dependence which regards recovery as an individual process; which involves voluntary sustained control over a drug or alcohol; which involves maximising health and wellbeing; and which has a component of individuals contributing to society and being an active and participating member. The ACMD Recovery Committee regards recovery is a much wider concept than purely achieving drug or alcohol outcomes.

Drug and alcohol misuse and dependence can cover a range or spectrum of severities of problems experienced by different people or even the same person at different times Drug and alcohol dependence is mediated by the nature of the substance consumed, regularity and quantity taken, the method of consumption and the individual.

Some research, including USA studies, use the term ‘remission’ not recovery to describe drug or alcohol outcomes. Remission here is defined as ‘abstinence or non-dependent use in those with prior substance dependency, problems or disorders’.

Substance dependence can have a complex course that is rarely linear, and short-term studies of remission or recovery tend to mask this complex course. Studies may inflate the number of people in remission by assuming that people not dependent on drugs or alcohol at a point in time are in stable recovery.

Evidence suggests that five years after dependent use is a point where sustained remission or recovery can be reliably judged (though 15% may be still likely to relapse).

Methodological differences between studies may account for some of the different findings in recovery or remission rates and create challenges in interpreting evidence. For example, different studies make assumptions about:

- how those ‘lost to follow-up’ are treated, for example whether they are presumed to be abstinent or to have relapsed;
- different follow-up periods to define sustained recovery, from a few months to decades; and
- different populations being studied in terms of substances used and amount of ‘recovery capital’ different groups have e.g. from homeless people to the wealthy and employed.

The emergence of recovery as an important component in UK drug strategies

UK Governments’ and devolved administrations’ responses to drug and alcohol dependence have evolved over time, focusing on different aspects of drug use and misuse and interventions.

The emergence of HIV among drug injectors in the 1980s directly influenced the UK Government of the day to focus on reducing the risk of a possible spread of blood-borne virus into society.⁴¹ An expansion of drug treatment and harm reduction interventions was implemented to help those with drug dependence reduce their risk of harm to themselves and others. The relatively low rate of HIV among injecting heroin users in England and Wales was one positive outcome resulting from this.⁷⁵

In England in the mid-to late 1990s the emphasis in the national drug strategy in England shifted to crime reduction⁷⁶ as an increasing population of injecting heroin users (and increasing crack users) was seen by the Government as a large contributor to acquisitive crime rates.⁷⁷ The ten-year national drug strategy in Britain⁷⁶ had a clear focus on “enabling people with drug problems to overcome them and live healthy and crime-free lives” through the expansion of treatment and interventions to target drug-using offenders and encourage them into treatment. This strategy led to a substantial expansion of treatment for those with heroin dependence and in particular an expansion in methadone and other opioid-assisted treatment in England and Scotland.

During the mid-to-late 2000s both grass-roots and other stakeholders, including some in government, began to express concern about numbers of people in opioid-assisted drug treatment and a perceived lack of ambition and interventions to help them rebuild their lives and achieve positive recovery outcomes. In 2008, the Scottish government published “The Road to Recovery: a new approach to tackling Scotland’s drug problem”.⁴ This stated that although “action to tackle problem drug use in Scotland has evolved significantly over the last 20 years, with considerable increases in investment in recent years in particular but recent work by experts suggests that a fresh approach is required if we want to address fully the needs of people with problem drug use, to help them recover and rebuild their lives”. In England, the drug strategy in 2010⁶ had a strand ‘building recovery in communities’ which recognised the investment made in drug treatment over the previous decade and the health gains accrued, but which expressed aims to make progress in the treatment of alcohol dependence and be more ambitious about creating recovery systems which could enable those with alcohol and drug dependence to achieve recovery outcomes.

The priorities for substance misuse published by the Welsh government for 2013–15 (the third delivery plan of the ten-year Welsh substance misuse strategy “Working together to reduce harm”)⁵ have a priority on expanding treatment with additional resources to “improve facilities so that those who misuse drugs and alcohol can access dedicated services in confidence which will help them in their recovery as well as help support and protect their families”.

This re-focusing on recovery in the UK forms the backdrop to the current work of the Recovery Committee.

Methodological issues when considering outcomes studies

There are limitations and strengths to all studies of recovery outcomes which must be taken into account when applying research studies to current populations. These include: methodologies used; the nature and geographical locations of the research cohorts studied; the age of the study; and, the applicability of the findings to the UK today.

The way each longitudinal outcome study treats those ‘lost to follow-up’ impacts on results and introduces potential bias – particularly those studies with poor rates of follow-up. Some researchers assume those lost to follow-up have ‘worst-case scenario’ results and are still dependent. Some assume ‘best-case scenario’ results and assume they have recovered. Some remove them from analysis altogether and some use methodological weighting systems to try and counteract bias. Thus outcome studies may be potentially presented as too optimistic or too pessimistic, depending on how those lost to follow-up are considered. Some studies¹⁴ consider these issues and describe a range of results dependent on how those lost to follow-up are counted.

As outlined in the glossary and definitions, there are different definitions of recovery used by different authors. Many studies, particularly those from the USA, use the term ‘remission’. This means someone who was dependent no longer meets the criteria for dependence. Those ‘in remission’ may consist of those who are using alcohol or drugs but now are not dependent and, those who are abstinent from the substance they were previously dependent on. Some studies do distinguish between those who are abstinent and those who are in remission but using in a non-dependent way, and some do not.

Studies may inflate the number of people in recovery by assuming that a person who is in recovery, remission or is abstinent for one year is in stable recovery. This review will go on to show that recovery stability increases as a function of time in recovery in treatment-assisted and natural recovery. Several researchers¹¹ have determined this set-point for stability to be in the range of five years of continuous recovery (when future risk of relapse drops to below 15%)^{78,79,80,81} and have recommended that remission or recovery from addiction, like remission from cancer, be monitored for a minimum of five years following recovery initiation.^{82,83,84}

This suggests it may be inappropriate to report stable recovery outcomes in short-term follow-up studies that describe people as abstainers or controlled drinkers, as if these were fixed and dichotomous states.

Prevalence studies that rely on self-report of resolution of past drug- or alcohol-related problems may also overinflate recovery estimates, by including people who had drug or alcohol problems but who did not meet the diagnostic criteria for drug or alcohol dependence.

Studies that report remission from alcohol or drug dependence only in terms of abstinence or using, will under-report recovery or remission rates, by excluding those cases who no longer meet criteria for dependence but who still use on occasion, for example those who have made a transition from alcohol dependence to non-dependent social drinking.

In principle, the longer the time after an intervention, the less one can attribute a person's behaviour to an intervention. Evidence indicates that this is particularly true of treatment interventions, whose impact on substance-using behaviour lessens over time to be gradually less influential than other contemporaneous factors.

Outcome studies of the past may not necessarily reflect potential outcomes that can be gained in the future. However, they may provide an indication of baseline outcomes that can be achieved and help identify situations and systems which improve outcomes for substance dependence.

Studies that look at substance use outcomes alone do not fully study recovery outcomes as they only examine dependence on drug or alcohol without reference to progress toward health and wellbeing and enhanced quality of life.

There is some research evidence and 'expert-by-experience' reports that some people 'swap' substances of addiction, for example they recover from heroin dependence but become dependent on alcohol.⁵³ Some outcome studies may be flawed in that they may report people as in recovery or remission from a substance when they have actually transferred their addiction from one substance to another.

These methodological uncertainties matter; they make the central task of this report difficult and explain why some of the debates around recovery outcomes have been difficult. In the course of this report, we try to 'take account of' and rise above these complexities and attempt to draw conclusions that are bounded by appropriate caveats.

What is dependence?

Drug or alcohol dependence has been defined internationally by many bodies and included in classifications of health conditions or diseases such as ICD-10⁸⁵ and DSM-5⁸⁶. The ACMD Recovery Committee scoping report¹ gives some detailed definitions of dependence.

Most definitions of dependence describe it as a multi-faceted condition which impacts on physiological systems, behaviour, thinking and brain functioning, and an individual's lifestyle. It describes a condition where the desire to use drugs or alcohol overpowers the individual. It refers to when taking drugs or alcohol is prioritised above other behaviours which were previously important, despite this use causing physical, psychological or social harm.

When someone is dependent, controlling their substance use is very difficult for them and may require an individual overcoming physical and emotional dependence. Relapse is common following cessation. Dependence may be compounded by 'collateral damage' which the individual incurs as a result of their substance misuse and related behaviours and may include: health problems; criminal records; problems with relationships; housing; or employment.

Research evidence and clinical practice on substance use, dependence and treatment (and everyday life experience) shows us that not everyone who uses drugs or alcohol becomes dependent.⁸⁷ For those that do become dependent, there may be different degrees or severities of dependence which are related to the individual, the substance, their environment, their circumstances or a combination of factors.

Drug and alcohol misuse and dependence can cover a range or spectrum of severities of problems experienced by different people or even the same person at different times. Dependence is mediated by a range of factors

including: the nature of the substance consumed; regularity and quantity taken; the method of consumption; the setting; and the individual. In addition, evidence in this report indicates that those with higher ‘capital’ may be less likely to develop dependence on some substances, and more likely to overcome that dependence when they do. There is evidence from US population studies⁸ that most people who experience a period of dependence on alcohol, cocaine, or cannabis, overcome that dependence and remission is the ‘norm’.

Evidence from other studies, mainly of treatment populations, indicates that dependence and recovery has a more complex course characterised by periods of dependent use, attempts to overcome dependence by abstinence or reduced use, non-dependent use and relapse – often over many years. Studies of those in treatment for heroin dependence indicate remission is not the norm and this has been described as a ‘chronic, relapsing condition’.^{9,10}

Thus, individuals suffering from drug or alcohol dependence and ‘in recovery’ are very heterogeneous, with significant differences related to the substance/s or dependence; the severity of dependence; and the social, personal, economic and health-related capital (assets or deficits) someone may have.

What is recovery?

There are multiple definitions of recovery, some of which are presented in the Recovery Committee scoping report published in January 2013. This includes definitions from: the UK Drug Strategy (2010)⁶; the Scottish Government (2008)⁴; UK Drug Policy Commission (UKDPC) (2008)²; and the Betty Ford Institute consensus panel (2007)³.

These definitions recognise that:

- recovery is an individual process of change, not a single event or end-point;
- recovery involves voluntary sustained control over drugs or alcohol (or freedom from dependence), but this is not necessarily total abstinence;
- recovery involves maximising physical and psychological health and wellbeing;
- recovery involves becoming an active and participating member of society or local communities; and
- recovery is aspirational and encourages people to be self-directed and reach their full potential – whatever that might be.

William White notes that recovery from a substance use disorder has been characterised by three core dimensions of change: remission of the substance use disorder; enhancement in global health (physical, emotional, relational, occupational and spiritual); and positive community inclusion.

The UKDPC discuss recovery as accruing positive benefits, not just reducing or removing harms caused by substance use.² Recovery is about building a satisfying and meaningful life, as defined by the person themselves, and involves participation in the rights, roles and responsibilities of society.

Thus, UK and USA consensus groups,^{2,3} and UK drug strategies^{4,5,6} define recovery from drug and alcohol dependence as a *process*, which is different for each person, which has key components of overcoming dependence, plus maximising health, wellbeing and social integration and contributing to society.

However, definitions of recovery are contested. Some stakeholder groups define recovery purely in terms of having achieved abstinence from the substance of dependence, or acknowledge other recovery outcomes but see abstinence as a necessary condition to define someone as being in recovery. Some researchers examine recovery purely in terms of changes in drug or alcohol use or dependence: USA researchers use the term ‘remission’¹¹ rather than recovery when discussing substance use outcomes – indicating a person no longer meets criteria for dependence though they may be either abstinent or using a substance in a non-dependent way.

The ACMD Recovery Committee takes the view that the concept of recovery clearly covers a number of outcome domains and is a wider concept than purely overcoming drug and alcohol dependence. We take the view that overcoming drug or alcohol dependence alone is not recovery and definitions of recovery that do not

include reference to wider outcome domains are inadequate and may lead to ineffective intervention strategies.

Central to the concept of recovery is voluntary control of drug and alcohol use,¹ but the process of recovery also involves working towards and hopefully achieving positive outcomes in a range of other recovery capital domains highlighted by Granfield and Cloud.⁷ These are: social capital outcomes (support from and obligations to related to family and group relationships); human capital outcomes (health and wellbeing, aspirations, educational achievements etc); physical capital outcomes (tangible assets such as property and money); and cultural capital outcomes (values, beliefs and attitudes linked to social conformity and the ability to fit into dominant social behaviours).

This approach to recovery domains and outcomes is illustrated in Figure 1 below.

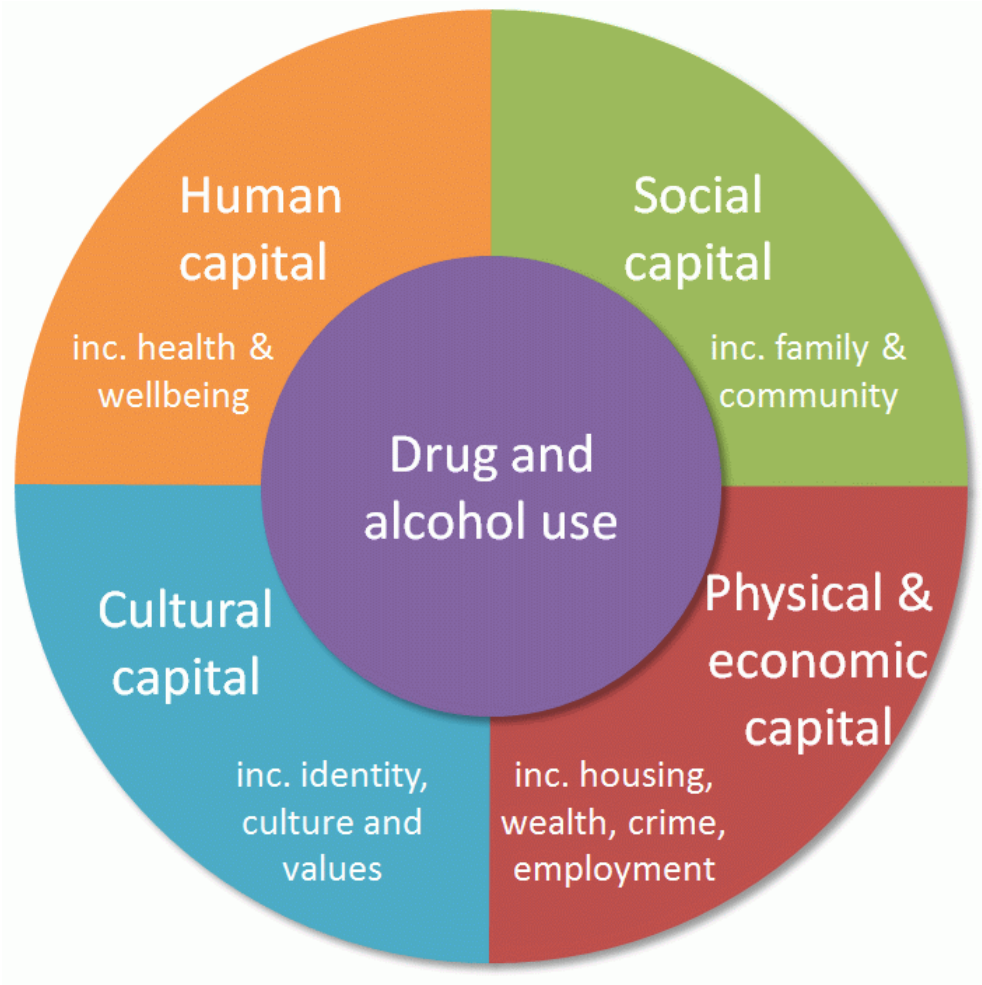


Figure 1: Recovery outcome domains.

Recovery may be associated with a number of different types of support and interventions or may occur without any formal external help: no 'one size fits all'. Recovery also embraces inclusion, or a re-entry into society and the improved self-identity that comes with a productive and meaningful role. For many people this is likely to include being able to participate fully in family life and to undertake work in a paid or voluntary capacity.²

The ACMD Recovery Committee notes that recovery is an ambitious concept that may require someone with drug or alcohol dependence to both overcome that dependence and also achieve a way of life, improvements to wellbeing and social integration that they did not have prior to developing substance misuse problems.¹

RATES OF DEPENDENCE AND RECOVERY FROM DRUG AND ALCOHOL DEPENDENCE

Summary: Rates of recovery from dependence on drugs and alcohol

- Many studies (especially those from the USA) look at ‘remission’ rather than recovery. Remission is defined as people with substance problems or dependence achieving abstinence or non-dependent levels of use.
- General population studies of recovery or remission from drug or alcohol problems are mainly from the USA.
- There is evidence that there are different rates of recovery from different substances – accounting for some of the different findings in studies.
- Population studies indicate that between 44% and 80% of those with drug and alcohol disorders achieve remission. The abstinence rate for smoking is 51%.
- A review of 276 international outcome studies of adults after treatment for drug or alcohol had an average remission rate of 49.8%, with wide variation in rates between studies.
- Adult average remission rates appear to have improved over time from 40.4% in the 1940s to 54.6% in 2005–11. However, it is possible that this is an artifact of evolving research methodology rather than reflecting a real change.
- The 50 adult studies published since 1970 which differentiated between rates of remission and abstinence found an average remission rate of 52.1% (range 20% to 80%) and an abstinence rate of 30.3% (9%–75%).
- An average remission rate in higher quality studies were 44% (in samples greater than 300) and 42.5% (in eight studies with follow-up periods of five years or more).
- A review of 60 international outcome studies of adolescents who had treatment for drug or alcohol dependence had an average recovery rate of 42%, with wide variation in rates between 4% and 85%.
- Unlike the adult outcome studies, adolescent recovery rates had not improved over time and average recovery rates had fallen from 54% in 1979 to 31% in 2011.¹¹

The available evidence on recovery outcomes

The majority of the evidence around rates of recovery from drug and alcohol dependence is from the USA, and there is a gap in UK-based research and evidence. There are some UK and European studies, but these are a minority.

Long-term outcome studies of recovery from dependence on drugs and alcohol would be beneficial to the UK to inform evidence-based policy and practice.

USA population studies of substance misuse problems, dependence and remission

The majority of population studies are from the USA. They consist of either population surveys that have data on drug or alcohol problems and/or dependence or cohort studies within the population. They generally try to establish what percentage of the population has ever met criteria for substance problems or substance dependence and compare this to the percentage meeting criteria in the last year. This method can provide rates of remission. Remission is defined here as ‘those that previously met criteria for drug and/or alcohol problems or dependence but which no longer do’.

There is evidence from US population studies,⁸ that most people who experience a period of dependence on alcohol, cocaine, or cannabis, overcome that dependence and remission is the ‘norm’. Authors cite half experience remission after 14 years for alcohol dependence, six years for cannabis dependence and five years for cocaine dependence.

White¹¹ reviewed USA studies of alcohol and drug remission rates in those with substance use disorders (including problematic use and dependence) in studies published between 1991 and 2010. Table 1 below presents his findings. In summary, he found remission rates of:

- 54–80% for alcohol use disorders;
- 29–72% for alcohol dependence with one study finding 29% were in remission for alcohol dependence for five years or more;

- 59% for drug disorders; and
- 57.5–74% for substance use disorders.

It is important to note that these studies have limitations rooted to their different methodologies. Some studies specifically look at dependence – while others look at drug or alcohol problems – a lower severity condition from which one may expect better rates of remission.

Study	Remission rate among those with lifetime substance use disorders (problematic use and dependence)
Robins, Locke, & Regier, 1991 ⁸⁸	54% for alcohol use disorder and 59% for drug use disorders
Kessler <i>et al.</i> , 1994 ⁸⁹	57.5% for all substance use disorders
Kessler <i>et al.</i> , 2005 replication ⁹⁰	74% for all substance use disorders
Dawson, 1996 ⁹¹	72.2% for alcohol dependence
Hasin <i>et al.</i> , 1997 ⁹²	61% for alcohol abuse; 29% for alcohol dependence
Dawson <i>et al.</i> , 2005 ⁹³	47.7% in full remission from alcohol dependence for past year; 29% in remission five or more years
Compton <i>et al.</i> , 2007 ⁹⁴	80% for alcohol use disorder
Hasin <i>et al.</i> , 2007 ⁹⁵	72% for alcohol use disorder
Dawson <i>et al.</i> , 2008 ⁹⁶	44% in full remission for alcohol use disorder after three years

Table 1: Remission rate among those with lifetime substance use disorders.

White reviewed the 15 community studies that reported both abstinence and remission from dependence. He found average remission rates of 43.2% (range 23% to 72%) and average abstinence rates of 17.9% (range 5% to 34%). He concluded that almost 60% of people with substance use disorders in the community resolve these problems through a sustained reduction in the frequency and intensity of alcohol and drug use rather than through complete abstinence.

White also presented data on estimates of how many individuals in the USA had lifetime substance use disorder or dependence and what proportion were in remission and how many individuals in the USA were in remission or recovery.¹¹ He estimated that the number of people in remission from significant alcohol or drug problems in the United States is more than 25 million, with an estimated range of 25–40 million. White commented that the rates of recovery or remission for alcohol and drug use disorders is between 44% and 80% in these general population groups which is higher than the rate of adult lifetime tobacco smokers who have quit smoking (51%).

International outcome studies of adults treated for drug or alcohol problems

White¹¹ also reviewed international clinical studies of both adults and adolescents who had received treatment for substance use problems – or as the Americans call them, disorders. A total of 276 adult studies published between 1868 and 2011 were reviewed. These studies varied enormously in a number of ways including:

- follow-up periods ranging between three months and 60 years;
- sample sizes ranging from 19 to more than 8,000 people studied;
- different population groups, in a range of countries (though the majority were from the USA);
- groups with different levels of recovery capital from homeless people to professionals with extensive social and personal capital; and
- groups with different severities of problem – from drug or alcohol dependence, to those with lower severity drug or alcohol problems.

White¹¹ also looked at average remission rates and presented these by decade. Some key headlines from this major review are as follows.

- The average remission rate for all 276 studies was 49.8%.
- There was huge variation in remission rates between studies.
- The average remission rates and patterns of use were remarkably similar across multiple drug choices, except remission from heroin dependence which was less stable and durable than substances patterns of remission. This is important to the UK given the large population in treatment for heroin dependence.

It was noticeable that adult remission rates between decades had improved from 40.4% in the 1960s to 54.6% in 2005–11. The authors conclude that this finding implies that recovery rates themselves can be improved, for example by advances in treatment technology, and growth in mutual aid and recovery-oriented communities and supportive environments. It is also possible that this statistical difference is an artefact of improved research methods or other confounding factors, so this finding needs to be considered alongside other evidence in this report.

Of particular note to our core question of ‘what recovery outcomes does the evidence tell us we can expect’, were the 50 adult studies, published since 1970. These gave both remission rates (people no longer meeting diagnostic criteria for dependence), and rates of abstinence (drug or alcohol abstinence at follow-up). In these 50 studies (see Figure 2 below) the average remission rate was 52.1% (range: 20% to 87%), and the average abstinence rate was 30.3 % (range: 9% to 75%). The variations in results are a matter of interest and warrant further study. The variations may be due to the range of methodologies used; different substance-using groups being studied; sample groups having different levels of recovery capital; differences in treatment availability and quality; or social and cultural differences in populations studied.

White then examined the 17 studies with greater methodological rigour (sample sizes of more than 300 and follow-up periods of five years or more). These studies may help us answer questions around what longer-term recovery outcomes does the evidence tell us we can expect. White found average remission rates of 44% in the 17 studies with samples greater than 300, and an average remission rate of 42.5% in the eight studies with follow-up periods of five years or more. Again these variations in results are worthy of further exploration.

Addiction has a complex course in individuals that is rarely linear and short-term studies of addiction can mask this complex course. Studies may inflate the number of people in remission or abstinence by assuming that people found in remission or abstinent at a point in time, are in stable remission.

Several researchers have determined the set-point for stability is around five years of continuous recovery. Recovery stability was reached after four or five years in those with alcohol dependence – when risk of lifetime relapse to dependence reduced to below 15%.⁷⁸ White recommended that, like remission from cancer, remission from substance dependence should be monitored for a minimum of five years following recovery initiation.

Review of international outcome studies of adolescents treated for drug or alcohol problems

White identified 60 studies which followed up recovery outcomes of adolescents treated for substance use disorders. These varied enormously in terms of sample size, methodology and follow-up period. The 60 studies reported an average remission rate of 42%, with a wide range (4% to 85%).

White also noted that the mean remission rate in adolescent studies had fallen from an average of 54% in 1979 to an average of 31% in 2011: a fall of 20% over three decades and an opposite trajectory to adult studies. He speculates that this change may be due to multiple factors, including an actual change in rates, methodological issues, and recent greater severity of adolescent substance problems.

White examined the 17 studies with greater methodological rigour (sample sizes of more than 300 and follow-up periods of five years or more). Studies which followed up adolescents for at least five years reported an average remission rate of 42.5% (range: 24% to 85%). Again, this variation in rates is worthy of further exploration.

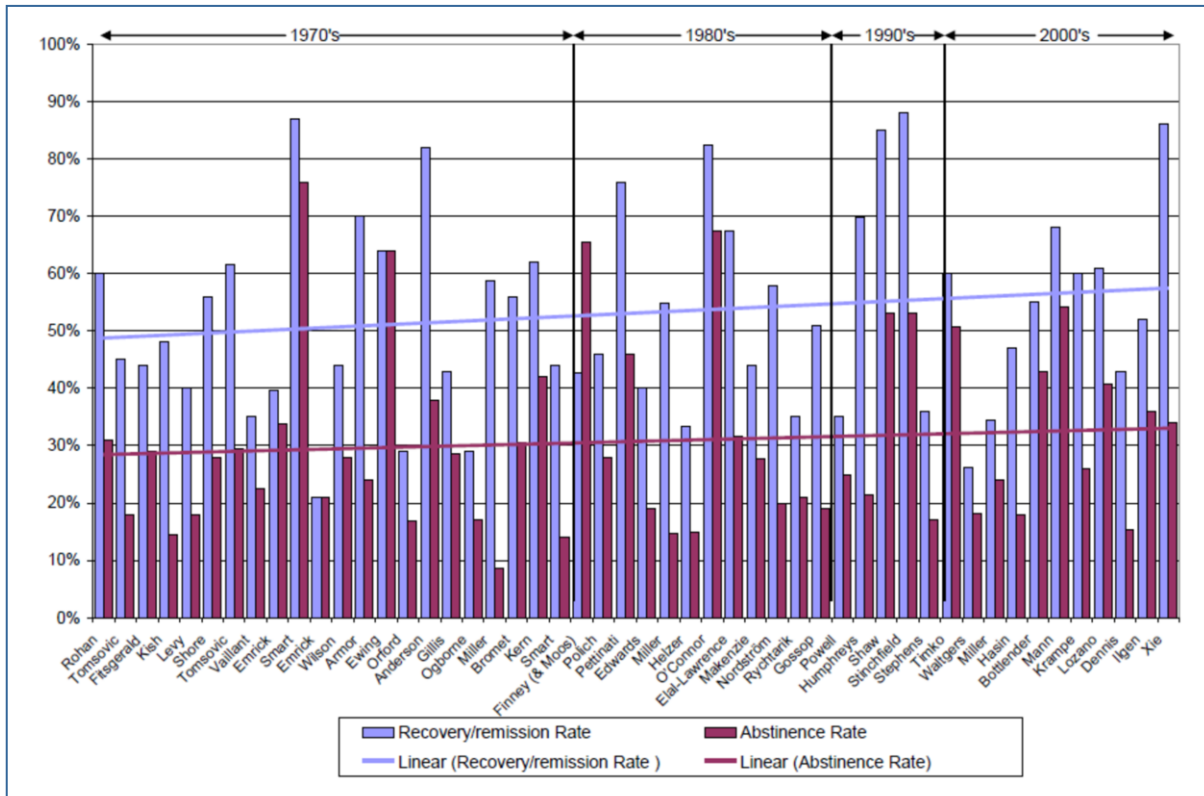


Figure 2: Recovery/remission and abstinence rates in outcomes studies 1970–2000s.

What does evidence tell us about remission from different substances?

Summary: What does evidence tell us about remission from different substances?

Heroin

Remission from heroin dependence is less common and less stable than recovery from most other substance addictions.

While there is evidence of high rates of recovery from heroin dependence developed in specific situations (e.g. the Vietnam War), there is strong research evidence of lower recovery rates from illicit heroin dependence which occurs in local communities.

A meta-analysis of international long-term outcome studies found remission rates for heroin ranged from 23% to 93% after three to 33 years. The percentage expected to become abstinent or non-dependent each year was between 9% and 22%.

A key study of 581 heroin-using men followed up after 33 years found half had died. Of the remainder, 43% had been stably abstinent for five years or more.

One 30-year study of heroin users discerned four distinct groups of survivors: 25% rapidly decreased heroin use and quit ten to 20 years from initiation; 15% achieved a more moderate decrease before quitting after ten to 20 years; 25% achieved a gradual decrease in heroin use over the 30-year follow-up; and 25% did not reduce their heroin use at all, and were still using at follow-up. The 40% who attained stable remission had spent five to eight -years in opioid substitution treatment prior to quitting.

Those who are dependent on heroin and crack cocaine have poorer outcomes than those who are dependent on either of these drugs alone.

Alcohol

Long-term outcome studies of remission from dependence on alcohol typically find rates of around 50%, with some variation (37% to 82.5%).

Cocaine

There is conflicting evidence on the rates of remission from cocaine with epidemiological studies indicating rates of remission as high as 76% after ten years and 99% lifetime remission rates, but studies of those in treatment show a quarter still use cocaine weekly after five years.

Cannabis

Studies of remission from cannabis dependence indicate rates of 4.7% after one year, 46% after around four years, 66% after ten years and 97.2% lifetime remission.

Heroin or opioids

There is research evidence that remission or recovery from heroin dependence is less common, less stable and less durable than other patterns of remission.^{11,13}

There is research evidence that the majority of heroin-dependent Vietnam veterans returning to the USA were able to achieve sustained recovery in a relatively short time upon returning 'home'; however, a minority were not able to achieve recovery quickly or, in some instances, at all.¹²

However, there is strong research evidence from multiple studies which indicates that positive drug recovery outcomes from heroin dependence in local 'home' communities are less common and less stable than drug recovery outcomes from most other substance addictions.^{11, 13}

A meta-analysis of international longitudinal studies – in which remission rates for opioids ranged from 23% to 93% after three to 33 years – estimated that the annual remission rate (the proportion expected to become abstinent or non-dependent each year) for heroin dependence is between 9% and 22%.¹⁴

Among the larger and longer-term of these studies, the USA California Civil Addict Program (CAP) study followed up an original sample of 581 heroin-using men after 33 years. After this time, about half had died.

Hser (2007)¹⁵ also followed up 242 of these men (just over 40% of the original sample) and 43% had been stably abstinent from heroin for five years or more.

The CAP study had excellent follow-up rates at 33 years (96%) and provides a view of the 'natural history' of heroin use. It found that a minimum of five years' abstinence predicts less relapse but considerable relapse occurs even after 15 years' abstinence. Long-term heroin abstinence was associated with less criminality, morbidity, psychological distress, and higher employment.

In the Drug Abuse Reporting Program (DARP),¹⁷ almost 75% reported one or more relapses to daily opioid use during addiction careers averaging ten years. Only 41% ever had a continuous episode of daily use lasting over two years. Relapse was most likely in the first three months after quitting, but of those who were able to abstain for three months or more, 80% were still abstinent 12 months later. Primary risk factors for relapse were younger adults with high risk-taking orientation and poor socialisation into supportive networks; social influences on relapse diminished over time (compared to "first use"), while psychological pressures – anxiety reduction, euphoria, and craving – were cited in over 80% of relapses. Reasons for quitting were: becoming "tired of the street hustle" and "hitting bottom and needing to change" were cited by 82–83%; other prominent reasons included personal events or crises (66%), fear of being jailed (57%), and family responsibilities (56%).

Among survivors 30 years after enrolment in Californian methadone maintenance programmes,¹⁶ four distinct groups were discerned:

- about 25% of the sample made a relatively rapid decrease in heroin use and quit altogether after ten to 20 years from initiation;
- 15% achieved a more moderate decrease before quitting after ten to 20 years;
- 25% achieved a gradual decrease in heroin use over the 30-year follow-up;
- 25% did not reduce their heroin use at all, and were still using at follow-up.

The 40% who attained stable remission (rapid or moderate decrease before quitting) had spent five to eight years in opioid substitution treatment.

One research study followed up English heroin users for 33 years.⁹⁷ After six years, 13% were abstinent, 51% were still injecting heroin and 6% had died. After 33 years, 42% had been abstinent for at least ten years, 22% had died and 10% were in methadone substitution treatment.

A number of studies have found that those who are dependent on both heroin and crack/cocaine have poorer outcomes than those who are dependent on one or other of these drugs.^{98,17}

Alcohol

The 1992 USA National Longitudinal Alcohol Epidemiologic Study reported that 49.9% of persons in remission from lifetime alcohol dependence had been drinking without symptoms or episodes of intoxication in the past year. However, in a subsequent follow-up, Dawson and colleagues found that 51% of the asymptomatic risk drinkers had re-experienced symptoms of alcohol-use disorders (compared to 27.7% of low-risk drinkers and 7.3% of abstainers). This study underlined the need for long-term follow-up to calculate accurate rates of sustainable recovery. There is, therefore, research evidence that deceleration of the frequency and intensity of drinking (compared to abstainers) is a viable strategy for some problem drinkers, but that there is risk in destabilisation of this strategy over time.

The USA National Epidemiological survey of alcohol dependence and related conditions (2010)¹⁹ found the probability of remission from dependence rose over time. In a person's first year of alcohol dependence, the probability of remission was 3%, in the first decade it was 37.4% and lifetime probability of remission was 90.6%.

Vaillant (1996)⁸² followed up cohorts of Harvard University graduates and inner-city adolescents all meeting criteria for 'alcohol abuse' for 20 years. He found a recovery rate of 50% for both groups.

Edens (2008),⁹⁹ in over 440 men and women identified with alcohol dependence, found that after 14 years, 37% of men and 45% of women reported recovery defined as no evidence in the last year of alcohol-related problems.

Jacob (2009),¹⁰⁰ in a 15-year follow-up of men with 'severe chronic alcoholism' at the age of 41, found that by the age of 56, 50% no longer met criteria for dependence.

Schuckit *et al.* (2000)¹⁰¹ followed up over 400 highly educated men with alcohol dependence or abuse. After five years, 82.5% were in recovery from alcohol dependence and 69.6% for alcohol abuse.

Brennan *et al.* (2011),¹⁰² in a 20-year follow-up of older men and women, found an overall reduction in alcohol-related problems over time with 23% abstinent after 20 years.

Cocaine

The USA National Epidemiological survey of alcohol dependence and related conditions (2010)¹⁹ found the probability of remission from cocaine dependence rose over time. In year one of dependence remission probability was 8.6%, in the first decade it was 75.8% and lifetime probability of remission was 99.2%.

The USA DATOS study¹⁰³ found that, among cocaine users, 69% reported at least weekly cocaine use on commencement of treatment. After one year 21% still used cocaine weekly and after five years 25% used cocaine at least weekly.

Cannabis

The USA National Epidemiological survey of alcohol dependence and related conditions (2010)¹⁹ found the probability of remission from cannabis dependence also rose over time. In year one of dependence remission probability was 4.7%, in the first decade it was 66.2% and lifetime probability of remission was 97.2%.

A German study¹⁰⁴ of cannabis abuse and dependence among 14- to 24-year-olds, who were followed up after 42 months, found a recovery rate of 56.6%, with 13.8% reporting abstinence and 42.8% reporting 'deceleration of use to subclinical levels'.

UK evidence on rates of dependence and recovery from drug and alcohol dependence

The majority of UK recovery outcome studies study those who have had drug or alcohol treatment. These research studies are presented below.

National Treatment Outcome Research Study (NTORS)

This study followed up over 1,000 problem drug users who had attended drug treatment in England in 1996. Key findings in terms of drug use were as follows.

After four to five years, the clients showed marked improvements in drug use. Among both those in residential rehabilitation and those in community methadone programmes at intake interviews, improvements were evident at one year, and these were largely maintained at two and four to five years. Reductions were found in the percentages of clients who were using drugs, and in the frequency of illicit drug use.

More than a third (38%) of the residential clients at intake were abstinent from illicit drugs at four to five years, and the percentage of these clients who were abstinent from illicit opiates increased from 19% at intake to 47% after five years. For heroin users in methadone substitution treatment at intake, more than a third (35%) were abstinent from illicit opiates at four to five years compared to 6% at intake.

Daily opiate use among the residential clients at intake fell from 51% before treatment to 18% at four to five years. Among the methadone clients at intake, daily opiate use fell from 62% to 20% at four to five years.

For the residential clients at intake, regular use of cocaine powder and amphetamines was significantly reduced over the course of the study. The methadone clients at intake were less likely to be regular users of these drugs at intake, and rates of use remained low at subsequent follow-up.

Clients in both settings at intake reported substantial improvements in regular use of benzodiazepines.

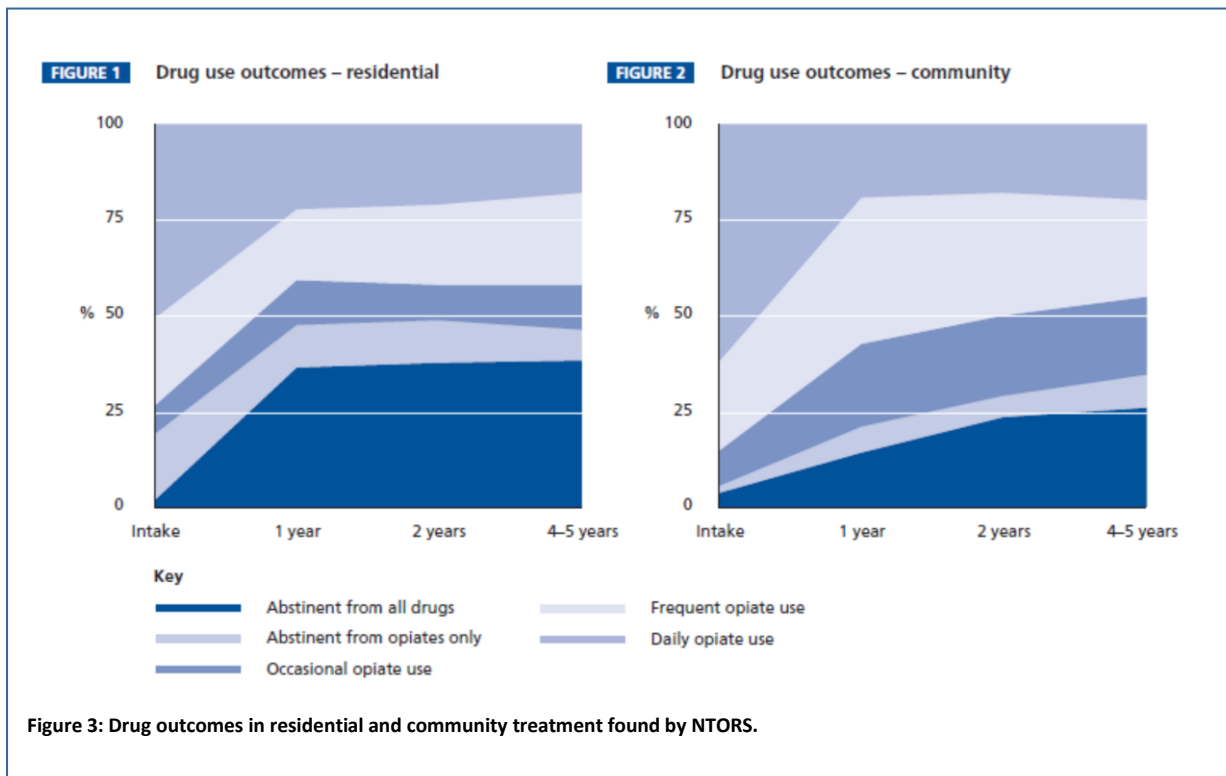
Crack cocaine was regularly used at intake by 20% of the residential clients and 12% of the methadone clients. In both groups, regular use of crack fell at one year (6%, residential, and 5%, methadone), but then increased again to 13% among residential clients at intake at four to five years follow-up, and to 10% among those in methadone treatment at intake.

Drug use outcomes were better sustained after five years for heroin and powder cocaine use than for crack cocaine.

NTORS did find that many problem drug users in both groups were drinking heavily both at intake and at follow-up, which raised issues about whether people were substituting drug dependence for heavy drinking or dependence.

Figure 3 illustrates the drug use outcomes for those in residential and community (methadone substitution) treatment at intake. These figures demonstrate that most reductions in drug use were gained in the first year or so after intake into treatment.

NTORS found better outcomes from those in residential treatment than methadone community treatment at intake. These groups were self-selecting, and residential rehabilitation required a commitment to total abstinence from illicit drugs, alcohol, and no opioid substitution treatment.



Drug Outcome Research In Scotland (DORIS)

Drug Outcome Research In Scotland (DORIS) followed a similar design to NTORS (above), following 1,033 heroin, crack cocaine, and cocaine users starting a new treatment episode in 33 drug treatment agencies (including five prisons) in Scotland in 2001/02. They were re-interviewed eight, 16 and 33 months after recruitment, with 695 (67%) of the original sample available to follow-up at 33 months.

Those in the study were asked to indicate their reason for contacting treatment services (for example, to be drug free, and/or to reduce harm). Many chose being drug free as their only goal, a finding shared by other studies.

However, at 33-month follow-up only a small proportion (5.9% of females and 9.0% of males) had been completely drug free (excluding possible alcohol and tobacco use) for the previous three months.

What was significant to this outcome was the treatment type from which people were recruited. The proportion which had a 90-day drug-free period rose to 24.7% for those recruited from residential treatment, but was 6.4% for those recruited from a community-based, normally opioid treatment. This difference in the outcome of treatment types remained even after controlling for other factors.

Drug Treatment Outcomes Research Study (DTORS)

The Drug Treatment Outcomes Research Study (DTORS) attempted to follow a baseline sample of 1,796 drug users seeking treatment for a drug problem from 342 treatment facilities across 94 Drug Action Team areas in England over 12 months from 2007. Initially, 1,131 were followed up but drop-out in the study was high and only 504 (28%) of the sample were available for 12-month follow-up – therefore the findings from this study should be treated with caution.

Of those followed up, the key findings at 12-month follow-up were as follows.

There were substantial reductions in drug use, injecting, sharing of injecting equipment, and offending, and some improvement in health and social functioning. No impact was gained on employment.

The majority of improvement in outcomes was achieved within 12 weeks of treatment but the rate of improvement continued for between three and six months, with no significant change thereafter.

In terms of drug use, those using heroin, crack, cocaine, amphetamines or benzodiazepines halved by 12 months. The proportion using non-prescribed opioids fell by considerably more than half, whereas the proportion using cannabis or alcohol fell by much less than half.

Almost three-quarters of heroin injectors stopped injecting and sharing injecting equipment altogether by first follow-up. Overdose risk halved over the study. However, among those who continued injecting, 55% were still sharing injecting equipment at second follow-up and increased risk behaviour was linked to: heroin plus crack use; continued offending; and low motivation.

There was no change in sexual risk behaviour over the study period.

Most drug users who were offending stopped (61% at first follow-up and 68% at second follow-up) and almost all substantially decreased their volume of offending and/or the costs associated with it. Those who reduced offending more were crack users or those with previous experience of drug treatment.

Many reported an improvement in mental health but not compared to general population rates. Offenders reported a greater improvement in mental health during the study, whereas those receiving GP prescribing reported least improvement.

No significant changes were reported in self-reported physical wellbeing scores.

England's national treatment outcome monitoring system: Treatment Outcomes Profile (TOP)

Since 2007, the Treatment Outcomes Profile (TOP) has been used throughout the public drug treatment system in England to monitor in-treatment outcomes in the domains of substance use, injecting risk behaviour, crime, and health and social functioning. The TOP dataset is very large – capturing data on over 200,000 people in drug treatment a year.

TOP is a validated outcome monitoring tool.¹⁸ TOP monitors changes in client outcome in four core domains over time: substance use; crime; health and wellbeing; and social functioning (housing, employment education). TOP statisticians use 'reliable change' methods to determine that the amount of change is significant and not just random variation or measurement unreliability (for example, reliable change in heroin use is a cessation of use by at least 13 days within a month).

TOP changes in drug use after six months in treatment

Primary heroin users

TOP data¹⁰⁵ indicated that over two-thirds of heroin users seeking treatment (69%) reported active heroin use at treatment start – with the rest being either prison releases or in remission seeking help to prevent relapse. Almost three-quarters of heroin users (73%) had stopped or reliably improved their heroin use (reduced their

heroin use by 13 days or more) within six months of treatment. These heroin users had reduced their heroin use from an average of 20.3 to 6.5 days a month during this six-month period. After six months 46.2% had totally stopped, 22.9% had reliably improved, 27.5% were unchanged, and 3.4% had got worse. It is important to note that many heroin users will be in opioid substitution treatment at this point in treatment.

Heroin and crack users

TOP data¹⁰⁵ at six months into drug treatment showed those drug users who use both heroin and crack do not reduce their use of drugs as much as those who use only heroin (primary heroin users) or only crack (primary crack users). Of this group:

- 65% had improved their heroin use: 41% had stopped heroin use, 24% had reliably improved (reduced their heroin use by 13 days or more), 31% were unchanged and 4% were using more;
- 64% had stopped or improved their crack use (reduced crack use by 12 days or more) within six months of treatment: 52% had stopped crack use, 12% had reliably improved, 32% were unchanged and 4% were using more crack.

Crack users

TOP data¹⁰⁵ showed that 51% of crack users had stopped using after six months in treatment, 22% had reliably improved (reduced use by 12 days in the past month), 25% were unchanged, and 3% had not improved.

Cocaine users

TOP data¹⁰⁵ showed that 65% of powder cocaine users had stopped using within six months of treatment, 9% had reliably improved (reduced use by eight days or more), 25% were unchanged, and 1% had reliably deteriorated (increased use by eight days or more).

Amphetamine users

TOP¹⁰⁵ showed that most primary amphetamine users stopped using within six months of starting drug treatment (56%), 10% had reliably improved (reduced use by 13 days or more), 33% were unchanged, and 1% had reliably deteriorated.

The national average for displaying reliable change among amphetamine users after six months of treatment is 66%. Black and minority ethnic (BME) clients show the greatest reliable change out of all ethnic groups (69%), while younger clients (67%) made greater than average reductions in amphetamine use.

Cannabis users

Within six months of starting treatment, TOP data¹⁰⁵ showed that just over half (53%) of cannabis users had stopped or reliably improved (reduced cannabis use by 12 days or more).

		Abstinent	Reliably improved use	Unchanged	Reliably deteriorated
Opiates		51%	22%	25%	3%
Crack cocaine (data to be entered)		63%	8%	27%	2%
Opiates plus crack	Heroin use	41%	24%	31%	4%
	Crack use	52%	12%	32%	4%
Powder cocaine		65%	9%	25%	1%
Amphetamines		56%	10%	33%	1%
Cannabis		33%	20%	45%	3%

Table 2: TOP reliable change in drug use after six months in treatment in England.¹⁰⁵

Alcohol users

Within six months of treatment, TOP data¹⁰⁵ showed that a third (33%) of primary alcohol users had stopped, and 19% had reliably improved their alcohol use (reduced use by ten days or more). However, data for under-25-year-olds show that just under a quarter had stopped within six months, and almost a fifth more had reliably improved within six months.

What service users' factors are associated with better drug treatment outcomes six months after treatment has started?

TOP data provide clues of the factors that appear to be associated with someone's chances of reducing substance use. Table 3 below shows the significant factors associated with a low probability (16%) of improved drug use outcomes, and a high probability of improving drug use outcomes (61%). After six months of treatment, stopping or reducing opiate or crack use, or stopping injecting, were predictors of successful treatment completion.

Client A (16% probability)	Client B (61% probability)
Opiates every day	Opiates every day
Heavy crack cocaine use	No crack cocaine
No cocaine, amphetamine or cannabis use	No cocaine, amphetamine or cannabis use
Daily injecting	Not injecting
Homeless	Housed
3+ previous unplanned discharges	No unplanned discharges

Table 3: TOP data on factors associated with probability of drug use outcomes.¹⁰⁵

What factors were associated with service users completing a treatment episode and not returning to treatment within six months?

TOP data indicate that several variables consistently increase or decrease the probability of completing a treatment episode (no longer dependent) and not re-presenting at treatment within six months of exit.

Factors associated with completing an episode of treatment then not re-presenting to treatment within six months include: being female; being older; and, being in employment.

Factors associated with treatment drop-outs and/or re-presentation to treatment within six months include: having housing need; benzodiazepine use; and, a previous history of treatment drop-outs.

Drug use outcomes among those attending drug treatment in England 2005/6 to 2011/12

In England, TOP outcome data on around 341,000 individuals in drug treatment over six years to 2011/12 was analysed.¹⁰⁵ Key findings from this analysis are as follows.

Cohort profile

- Most people were dependent on heroin or crack cocaine, or both, with two-thirds of those in treatment (229,788) having a heroin problem.
- The average length of drug use before seeking treatment was eight years.
- Individuals were often at a peak of criminal activity before coming into treatment.
- Individuals were generally in poor physical and mental health.
- The vast majority were unemployed with few qualifications.

Treatment received

The average length of time users of any drugs spent in treatment was two years, but there was considerable variation within this.

Around half of heroin users left treatment during the study period, typically after two years in treatment. The other half remained in treatment, and had, on average, been in and out of treatment for six years. One in ten heroin users had been in treatment continuously over this period.

Those dependent on other drugs (for example stimulants, cannabis) spent on average less than six months in treatment before completing.

The majority of all people who were still in treatment at the end of the period had multiple treatment journeys. A sizeable minority (about one-third) went in and out of the system at least three times.

Outcomes

Of the entire cohort of 341,000 individuals, 85,303 (a quarter) completed their treatment episodes and did not return to treatment in the six-year period.

The more recently people entered treatment, the more likely they were to complete treatment and not re-present. In the past three years, this equated to one-third of new people entering drug treatment in England.

Heroin users had lower successful completion rates than other drug users, yet the study showed 17% of those with heroin dependence completed treatment and became drug free in any year.

Recovery outcome trends during treatment

- Multiple UK studies of rates of recovery for those with drug dependence show them having marked reductions in drug use during treatment, with the greatest gains made within the first year of treatment (similar to international studies). Significant reductions in drug injecting and crime are also reported in these studies.
- Similarly, the UK studies show that those recruited (to the studies) from residential treatment (requiring a commitment to abstinence from the outset), as opposed to community drug treatment, generally report lower drug use at follow-up.
- English treatment outcome research conducted from 1996 to 2000 showed that one-third to half of those who entered treatment were abstinent from their drug of dependence after four to five years, though many of the heroin users in this cohort remained in opioid substitution treatment. Crack use fell during treatment to 5–6% but increased to 10–13% at four-to-five-year follow-up. For drug users who also drank heavily, alcohol consumption was not impacted on by treatment.
- Scottish treatment outcome research which followed up drug users for 33 months found around 6% of women and 9% of men had been abstinent from all drugs for the previous three months.
- English treatment outcome monitoring since 2008, using the Treatment Outcome Profile (TOP), shows significant reductions in drug and alcohol use during the first six months of treatment. Abstinence from the drug or drugs of dependence is achieved in this period by 41% to 65% of people who enter treatment, and reductions in use by a further 9–24%. Thus between 53% and 73% of those in treatment in England reduce or stop their drug of dependence within six months of treatment. An important caveat is that many of those being treated for heroin dependence are still in treatment and in receipt of opioid substitution treatment.
- TOP analysis indicates that some factors present at treatment start are associated with poorer treatment outcomes after six months, including: daily heroin use and heavy crack use; injecting; being homeless; and three or more previous treatment drop-outs.
- TOP analysis showed some factors are associated with the chance of a service user successfully completing a treatment episode and not re-presenting within six months, including being female, being older, and being employed.
- TOP data were analysed for 341,000 people in drug treatment from 2005 to 2012. Of this sample:
 - 66% were dependent on heroin; most were dependent on heroin or crack cocaine or both; the average length of use prior to treatment was eight years; individuals were in poor physical and mental health, unemployed and had few qualifications;
 - the average length of time in treatment was two years but there was considerable variation and the majority who remained in treatment had multiple treatment episodes; and
 - one-quarter of the sample completed treatment and did not return in the study period.
- The more recently people entered treatment the more likely they were to complete and not re-present (one-third of new people).
- Heroin users were less likely to complete a treatment episode though 17% a year did so.

The following sections explore what evidence is available on a range of recovery outcomes – other than drug and alcohol use and dependence. They explore human capital (health and wellbeing), social capital, physical and economic capital, and cultural capital. Some headline evidence on treatment outcomes is also explored.

HUMAN CAPITAL – RECOVERY OUTCOMES

Summary: Human capital (health and wellbeing) recovery outcomes

- There is research evidence, from multiple studies, that those with drug or alcohol dependence generally have a shorter life expectancy than the general population. There is also evidence that dependence on drugs and alcohol is associated with a range of diseases, infections and ill health.
- Heroin dependence and alcohol dependence are particularly associated with high risks of morbidity and mortality.
- Mortality and morbidity risks may be due to dependence itself as well as the ‘lifestyle risks’ associated with drug or alcohol dependence such as poor nutrition, poor levels of hygiene, living in deprivation or poverty and increased exposure to violence.
- There is a lack of evidence on mortality and morbidity for some substances, including morbidity risks of cocaine and other stimulants, prescription opioids and new and emerging drugs.
- There is research evidence that there is a genetic element to dependence, with some people predisposed to develop dependence on drugs or alcohol. There is also emerging evidence that this ‘genetic loading’ may be mediated by environmental factors – particularly for women.

Health and wellbeing

There is evidence that dependence on drugs and alcohol is associated with a range of diseases, infections and ill health.

It should be noted that this area is complex. Those with drug and alcohol dependence may also have a higher prevalence risk of other ‘lifestyle risks’ that can also contribute to ill health and risk of death, for example from smoking. Some with drug and alcohol dependence may have poor health due to a range of factors⁴⁰ including: poor nutrition; poor levels of hygiene; living in deprivation or poverty; or increased exposure to violence.¹⁰⁶

It should be noted that there is a lack of evidence on mortality and morbidity among some substances, including morbidity risks of cocaine and other stimulants, illicitly used prescription drugs and new emerging psychoactive drugs.

Mortality among those dependent on drugs and alcohol

There is research evidence, from multiple studies, that those with drug or alcohol dependence generally have a shorter life expectancy than the general population.

Mortality: opioid dependence

There is research evidence that heroin dependence is associated with higher rates of mortality than other drugs – particularly among those who inject. There is research evidence that the longer someone is heroin dependent, the more likely it is that they will die prematurely.

Two examples of studies are:

- A USA 30-year follow-up study of heroin users showed that half died during the study period.¹⁶
- One English 22-year follow-up study of heroin injectors³³ found that 43 out of 128 had died – an annual mortality rate of 1.84% and an excess mortality ratio of 11.9.

There is research evidence that deaths among those with heroin dependence may be due to a number of factors including: heroin overdose (often involving heroin plus alcohol or another sedative); health complications from injecting heroin (for example, deep vein thrombosis); health complications due to blood-borne viruses and infections caught by injecting (HIV, hepatitis C); and health complications through poly drug and alcohol use, for example liver disease.

A consistent finding in opioid overdose deaths is that multiple drugs, particularly other respiratory depressants like benzodiazepines and alcohol, are usually involved.

There is emerging evidence that male opioid users have a higher risk of death compared to women.¹⁰⁷

There is also an increased risk of death after a period of abstinence or detoxification from opioids – due to lower tolerance and enhanced risk of relapse and overdose. This is evident from research on the following.

Release from prison: there is a four-fold higher risk of death due to overdose after leaving prison in the first four weeks, due to the risk of relapse after a period of abstinence, among heroin injectors.^{36,37} Studies have found that there is a high death rate among drug users who leave prison. For example, one in 200 male drug users died within two weeks of release in Scotland between 1996 and 1999.³⁸

Leaving residential therapeutic community treatment has been found to increase risk of overdose death. One study found that overdose deaths per month were three times more frequent in the 30 days after leaving treatment than later.³⁹

There is research evidence that opioid treatment is generally protective and reduces risk of death, though there is a slightly greater risk of death during the first month of opioid substitution treatment compared to other months.³⁶ The longer opioid users receive opioid substitution treatment, the higher the probability that treatment reduces their mortality.^{36,108} All types of opioid treatment intervention reduce the risk of death³⁹ and some authors have found being in opioid substitution treatment can reduce risk of overdose death by half.³⁶

The introduction of the supervised consumption of methadone in England and Scotland in the 2000s was followed by a substantial decline in the ratio of methadone deaths in these countries over the following five or six years.¹⁰⁹ However, in Scotland for example, although heroin-related deaths have fallen, methadone-related deaths have increased and are overtaking heroin-related deaths.¹¹⁰

Mortality: Alcohol dependence

There is research evidence that alcohol dependence is associated with premature death. Alcohol dependence accounts for almost three-quarters (71%) of all alcohol-attributable deaths in Europe.³⁴

A systematic review³⁴ found that some of the leading causes of death due to alcohol dependence were liver disease and ischaemic heart disease; with intentional and un-intentional suicide the leading cause of injurious deaths from alcohol dependence.

There is research evidence that reducing alcohol consumption rates (including, though not limited to, achieving abstinence) is associated with reductions in mortality due to alcohol-related diseases, as well as all-cause mortality.³⁴

Recent Cochrane reviews have found that around 11,700 alcohol-related deaths among heavy and dependent drinkers, a year, could be prevented in the EU by wide implementation of alcohol brief interventions and treatment.

Morbidity

Morbidity: alcohol dependence

There is research evidence that alcohol dependence is associated with increased risk of early death and increased morbidity. The following data are drawn from a major review and analysis of data by Rehm *et al.*³⁴

There is research evidence that alcohol dependence is associated with higher levels of illness and disease, than normal drinking in populations. Research evidence showed that alcohol consumption is a contributory cause of more than 200 types of disease, particularly liver cirrhosis and ischaemic heart disease, (which have their own associated mortality and disability burdens). The more alcohol consumed, the higher the risks for alcohol-attributable disease.³⁴

There is evidence that, in 2004, more than four million Disability-Adjusted Life Years (DALYs)^a were lost in Europe due to alcohol consumption, either due to premature mortality or to alcohol-related disability. The leading causes of alcohol-attributable burden of disease (which are markedly different from the main causes of mortality), among adults living in the EU in 2004, were mental and neurological disorders (46.3% and 44.2% respectively). Authors noted that because alcohol-use disorder or alcohol dependence is less fatal than diseases such as cancer and cardiovascular disease, it contributed relatively more to the disease burden than to mortality.³⁴

Morbidity associated with drug dependence

HIV infection

There is research evidence that injecting drug use is associated with the spread of HIV due to the sharing of injecting equipment.³⁵ HIV infection among injecting drug users, particularly heroin injectors, is a major contributory factor to mortality and morbidity in some countries. The United Nations (2012)¹¹¹ reported around three million of the estimated 16 million people who use drugs are living with HIV. In 49 countries with available data, HIV prevalence was 22 times higher in people who use drugs than in the general population and one study suggests that globally people who inject drugs only use sterile injecting equipment for 5% of injections.

There is research evidence that treatment and harm reduction interventions can prevent the spread of HIV among injecting heroin users.

There is research evidence that opioid substitution treatment reduces the risk of blood-borne virus transmission.³⁵ Opioid substitution treatment has been found to more than halve the risk (65% reduction in risk) of HIV transmission among injecting heroin users.¹¹²

There is conflicting evidence that needle and syringe programmes alone can prevent HIV. Two good-quality systematic reviews^{113,114} to support effectiveness and two other systematic reviews,^{115,116} including one good quality review, suggest that the evidence may be less convincing.

However, there is research evidence which shows that opioid substitution treatment combined with needle and syringe exchange programmes can prevent HIV among injecting drug user populations.^{117,118,119}

There is no evidence that detoxification is protective, because of the high risk of relapse.¹¹²

Hepatitis C

There is research evidence that hepatitis C is widespread among some population groups of injecting drug users, with prevalence rates of 45% in England, 55% in Scotland, 39% in Wales, and 29% in Northern Ireland in 2011.¹²⁰ There is research evidence that hepatitis C is associated with high rates of morbidity and mortality,¹²¹ particularly if those infected continue to drink alcohol.¹²²

There is research evidence that a range of treatment and prevention interventions can reduce risk of spread of hepatitis C, reduce prevalence of hepatitis C, and thus the risk of morbidity and mortality associated with this disease. Research indicates the following.

Opioid substitution treatment and high coverage of needle and syringe programmes can substantially reduce the risk of hepatitis C virus transmission among injecting drug users.¹²³

If injecting drug users receive sufficient needle and syringe coverage, their risk of contracting and/or spreading blood-borne viruses is reduced by 80%.¹²⁴

Hepatitis C treatment for active injecting drug users is a cost-effective intervention to reduce population levels of hepatitis C incidence, where prevalence is less than 60%.¹²⁵

^a Disability-Adjusted Life Years (DALYs) are a summary measure of health that add together Potential Years of Life Lost (PYLL) and Years of Life Lost Due to Disability (YLD) to create a measure of all years of life lost due either to premature mortality, or to living with a disability. DALYs are the most-used indicator for comparing health across different jurisdictions. For example, they are used by the World Health Organization (WHO) for its regular health monitoring.

Mental health

There is a complex relationship between mental health and dependence on drugs and alcohol.

There is research evidence that some types of substance use or dependence can cause mental health problems, for example stimulant-induced psychosis.¹²⁶

There is emerging evidence that substance misuse may trigger psychosis among those vulnerable to developing this problem.¹²⁷

There is evidence that alcohol dependence can cause brain damage, including to memory and cognitive functioning.¹²⁸

There is research evidence that the prevalence of substance misuse problems is more common among those with mental health problems than the general population^{129, 130} Those with schizophrenia were more than four times as likely to have a substance problem during their lifetime than those in the general population, and those with bipolar disorder were more than five times as likely to have such a diagnosis.

There is evidence that indicates a link between attention-deficit/hyperactivity disorder (ADHD) and substance misuse.¹³¹

There is also evidence that the prevalence of drug and alcohol problems and dependence are more prevalent among those with mental health problems.¹³²

There is a small amount of research on drug and alcohol outcomes among those with a co-morbid mental health problem. Several prospective studies have shown increased rates of hospitalisation over one year for psychiatric clients with a substance use disorder.^{133, 134} Drake *et al.* found drinking alcohol within 'safe' limits predicted rehospitalisations.¹³³ One-year follow-up studies also show little remission of substance use disorder.¹³⁵

One study on homeless mentally ill adults concluded that substance use disorders were the single most important factor contributing to housing instability in this population.

Bartels *et al.*, (1995)¹³⁶ followed up a cohort of severely mentally ill patients over seven years. They interviewed 148 out of 170 (86%) at follow-up. Rates of alcohol disorders did not significantly change over time (24%–21%). Rate of drug disorder did not change significantly from 20% at baseline to 17% at follow-up. However, over the seven years, 25% of those with an alcohol disorder and 35% of those with a drug disorder achieved abstinence. Some who had no problems at baseline had developed them by follow-up and vice versa. Those with substance abuse rather than substance dependence were more likely to achieve abstinence.

Several research studies have found that those with mental health problems who drink within safe limits or take drugs 'recreationally' are more likely to develop drug or alcohol dependence or problems.^{137,138}

One Dutch research study showed that those with personality or mood disorders did show at least as much improvement in alcohol dependence after one year as others with alcohol dependence, but adult antisocial traits were associated with more drug, legal, and psychiatric problems at baseline and with more drug problems at follow-up.¹³⁹

Genetic issues

There is emerging evidence that genetics may play a part in which individuals are likely to develop drug or alcohol dependence because of their genetic make-up and similarly which individuals are likely to recover.

Emerging research indicates that genetic loading or predisposition may be a risk factor in drug or alcohol dependence.¹⁴⁰

However, there is also emerging evidence that social environments may be able to mitigate the impact of genetic loading – similar to the emerging research on epigenetics. One Danish study showed that for children of alcohol-dependent fathers, alcohol dependence was four times as likely among adult male children, than adult female children (who are 1.5 times as likely). The authors stated that social environment appears to have a greater impact on women than men.¹⁴¹

In conclusion, evidence suggests that achieving health and wellbeing recovery outcomes may be one of the biggest challenges in a population with such poor physical and mental health; particularly the ageing population of heroin or ex-heroin users in the UK.

SOCIAL CAPITAL – RECOVERY OUTCOMES

Summary: Social capital recovery outcomes

There is evidence that those who come from troubled or dysfunctional families are more likely to develop drug or alcohol dependence than others.

There is evidence that families or partners may hinder recovery (if they are dysfunctional or have dependence issues themselves) or aid recovery (if they are supportive). There is emerging evidence that supportive local communities can enable recovery.

There is evidence that involvement with mutual aid can significantly improve recovery outcomes, with most evidence based on the study of 12-step fellowships in the USA.

Some factors, including more active or frequent involvement and becoming a sponsor, are associated with greater improvement in outcomes.

There is evidence that active encouragement to engage with mutual aid enables better outcomes, though coerced involvement is not beneficial.

Social capital may be defined as the sum of resources that each person has as a result of their relationships, including both support from and obligations to social groups and family membership. The role of social capital in recovery from drug and alcohol dependence is a growing area of emerging interest. It links to social and asset-based theories recovery from dependence.

Relationships, family and community

There is research evidence that people from troubled, dysfunctional or substance-misusing families are more likely to develop substance dependence. Where drug or alcohol dependence has occurred in this context, a family may hinder an individual's recovery unless the family are helped to resolve their own problems.

There is research evidence that having supportive, family members (who do not have substance misuse problems themselves) can improve outcomes in those recovering from drug and alcohol dependence, particularly if the family member and/or couple receives psychological interventions such as Behavioural Couples Therapy (BCT) or family therapy to enable them to support the person in recovery.⁴⁵

There is emerging research evidence that becoming a parent may be a catalyst for overcoming substance misuse problems.⁴⁸

There is emerging research evidence that the role of communities in recovery is important, and there are initiatives to promote recovery and empower communities to support people recovering from drug or alcohol dependence, for example from Philadelphia.^{49,50}

Emerging research evidence from the USA suggests that communities can have both important positive and negative impacts on recovery outcomes, depending on whether those in recovery are stigmatised, or local communities support recovery initiatives.¹⁵⁴

There is emerging research evidence and expert-by-experience evidence that families with access to community assets, such as involvement with community groups and churches, are less likely to develop problems with substance dependence.

Mutual aid

The large majority of mutual aid research is based on the '12-step' or 'fellowship' approach that is practised by Narcotics Anonymous (NA) and Alcoholics Anonymous (AA). The vast majority of research evidence is from the USA and relates to these fellowships. There is emerging evidence on other forms of mutual aid, for example, SMART recovery.

There is research evidence that a range of recovery outcomes and sustained recovery are more likely to be achieved if people engage in mutual aid.^{51,52}

There is emerging research evidence that more active engagement with mutual aid groups, especially weekly, supports better outcomes.^{53,54}

There is emerging evidence from a meta-analysis that a close match between personal beliefs and the choice of mutual aid group actually attended improves outcomes and that non-12-step groups are probably as effective as 12-step groups.¹⁴²

There is research evidence that mutual aid participants who become actively involved in helping others, for example as a sponsor, are more likely to do well.^{51,143} Among injecting drug users being a sponsor in NA/AA, over a one-year period, was strongly associated with substantial improvements in sustained abstinence rates for the sponsors, controlling for factors such as: involvement with community organisations; NA/AA meeting attendance; marital status; employment; participation in drug and alcohol treatment; and HIV status.¹⁴⁴

There is evidence that having a sponsor early in 12-step fellowship engagement is beneficial for most substance users except injecting heroin users. Having a sponsor early in engagement with AA was beneficial and predicted increased abstinence from alcohol, marijuana and cocaine after controlling for other measures associated with positive outcome.⁵⁵ However, Crape *et al.* (2002)¹⁴⁴ found that, for a group of injecting drug users, having a sponsor in NA or AA was not associated with any improvement in one-year sustained abstinence rates compared with a non-sponsored group.

There is emerging research evidence that the association between 12-step mutual aid affiliation and good outcomes is strongest among people who are younger, white, less educated, unstably employed, less religious, and less interpersonally skilled.⁵⁴

There is research evidence that substance misuse treatment providers can improve sustained recovery outcomes (including abstinence) by actively encouraging service users to engage with mutual aid.⁵⁶ Those who used alcohol and opiates, and who attended self-help groups, reported significantly better outcomes than those who didn't. Those who attended self-help groups more frequently reported better outcomes.⁵³

There is research evidence from three randomised studies – combined in a meta-analysis – that court-mandated or 'coerced' attendance at 12-step mutual aid was not beneficial.⁵⁷

PHYSICAL AND ECONOMIC CAPITAL – RECOVERY OUTCOMES

Summary: Physical and economic capital recovery outcomes

The relationship between substance dependence and crime is complex. There is research evidence that some types of dependence are associated with higher levels of crime than in the general population (for example, acquisitive crime among those who are heroin dependent, drink-driving by those who are alcohol dependent).

There is research evidence that drug or alcohol treatment significantly reduces substance-driven offending.

There is evidence that having a criminal conviction can significantly limit life opportunities and hinder recovery.

There is evidence of greater prevalence of drug and alcohol dependence among those with housing problems and that stable housing is beneficial to achieving drug- and alcohol-related recovery outcomes.

There is emerging evidence that drug dependence is more common among those living in social deprivation, and that debt is common among those with drug dependence.

There is conflicting evidence on the impact of wealth on alcohol dependence.

There is evidence that the rates of employment among those in treatment for drug dependence are lower than average, and that this outcome is more impervious to change than other outcome measures. Those unemployed upon seeking treatment tend to remain unemployed at follow-up and vice versa.

Rates of employment among those with alcohol dependence appear to be more variable.

This section covers recovery outcomes in terms of tangible assets such as property and money. We have included crime in this section as crime may be drug or alcohol driven – to raise assets to buy drugs or alcohol.

Crime and criminal convictions

There are complex relationships between drug and alcohol dependence, crime and recovery outcomes. Not all those with drug or alcohol dependence commit crime (aside from possession of illegal drugs), though there may be a greater propensity to commit crime if someone is dependent and needs to acquire drugs or alcohol. There is evidence of large variation in levels of criminal activity depending on the substances used and the personal circumstances of the person (including their income).

There is evidence that those who are dependent on illegal drugs have high rates of criminal offences for drug possession and supply.²⁶ There is also evidence that those who commit crime are more likely to use and be dependent on drugs and alcohol¹⁴⁵ – though the relationship between substance misuse and crime may not be causal.

There is research evidence that the use of some drugs, especially heroin, crack and cocaine, increases the likelihood of an individual committing crime – particularly acquisitive crime and drug dealing to obtain money to buy drugs.⁵⁸

There is research evidence from the UK that in drug treatment populations, the majority of acquisitive crime was committed by a minority of the population. However, drug dealing was reported by around half those who sought treatment for heroin or crack problems.⁵³

The relationship between crime and alcohol dependence is more complex. Researchers have found higher rates of some crime among those with alcohol dependence including drink-driving⁵⁹ and violent crimes, including domestic violence.¹⁴⁶

There is research evidence that having a criminal conviction can be highly stigmatising and can significantly reduce 'life opportunities', particularly in relation to employment.²

There is research evidence that regular heroin use is strongly associated with reductions in crime.²⁴

Property and housing

There is evidence of higher levels of drug and alcohol dependence among those with housing problems and particularly those who are hostel dwellers or street homeless.⁶⁰

As a general rule, evidence indicates stable housing is beneficial to those with drug or alcohol dependence achieving reducing substance misuse and achieving drug- and alcohol-related recovery outcomes.^{61,62,63} There is emerging evidence that housing environments which provide support and encourage sobriety can reduce the risk of relapse among those with drug or alcohol dependence who are trying to be abstinent.⁴ However, there is also evidence that there is an increased risk of overdose deaths among heroin users who relapse and therefore lose their housing and support.⁴

There is emerging evidence that rent deposit schemes can improve a range of intermediate recovery⁶¹ outcomes.⁶¹ There is also evidence that housing 'floating support services' may be effective at helping some substance misusers sustain housing.⁶¹

Money – personal finance

The relationship between personal wealth and recovery from drugs and alcohol dependence is a complex area which has been rarely studied as a research topic. Personal wealth may be strongly related to other aspects of recovery capital such as: housing, ability to access healthcare etc. There is research evidence that dependence on drugs and alcohol can occur in individuals and among populations who are rich or poor and every group in between, if drugs and alcohol are available.

There is research evidence that those living in poverty and areas of social deprivation in England and Scotland, where heroin and crack cocaine are readily available, have a higher rate of dependence on these substances.⁴²

However, there is evidence that alcohol dependence (and cannabis use) is more prevalent in lower and higher income groups,¹⁴⁷ with middle income groups having lower rates of dependence.¹⁴⁸

There is emerging research evidence and expert-by-experience evidence that many of those who are trying to recover from drug dependence have financial problems, such as debts, poor employment potential, and difficulties in managing money.

There is conflicting evidence of the impact of wealth on alcohol recovery outcomes. Some studies show that those with low wealth are less likely to recover from alcohol dependence¹¹ while other studies show that men who are very poor and living in hostels can have better rates of recovery (particularly abstinence) from alcohol dependence than middle-class alcohol-dependent men with disposable income¹¹. There is expert-by-experience and emerging research evidence from surveys that debts are experienced by many, as an obstacle to recovery.¹⁴⁹

Some researchers note that those with dependence need to redefine their relationship with money during the process of recovery, so money becomes something more than the means to buy drugs or alcohol.¹⁵⁰

Employment

In working-age adults, there is evidence to show that those with drug dependence generally have lower rates of employment than the general population, particularly heroin and crack dependence.⁵⁸ The rate of employment among those with alcohol dependence appears to be much more variable.¹⁵¹

There is research evidence that the rate of employment among drug users in treatment in the UK is low⁶⁴ and lower than in most European countries.⁶⁵

There is research evidence from numerous international studies that for drug users who have treatment, changes in employment status seem remarkably impervious to change. To generalise, those who start treatment for drug dependence who have been employed, tend to be employed in the future and those who are unemployed on seeking treatment, tend to stay unemployed on long-term follow-up.⁶⁶ Positive employment outcomes therefore seem difficult to achieve among those with drug dependence.⁶⁷

However, DTORS also found that multiple factors – including being employed, having a legitimate weekly income, having stable accommodation, and parents regaining children (both over and under 16 years) all increased following treatment, between first and second follow-up.

One study from the USA found that among other outcomes, long-term abstinence from heroin was associated with higher employment.⁸³

CULTURAL CAPITAL – RECOVERY OUTCOMES

Summary: Cultural capital recovery outcomes

There is evidence that social conformity and culture is important to recovery outcomes. Many heroin-dependent Vietnam veterans from the USA were able to achieve sustained recovery in a relatively short time upon returning 'home'; however, a minority were not able to achieve recovery quickly or, in some instances, at all.

There is emerging evidence that many of those in recovery go through an 'identity shift' from an integral part of their self-identity being a 'drug user' or a 'drinker', to being someone who is abstinent or has 'normal patterns' of use, to achieve sustained recovery.

There is emerging evidence that the building of non-substance-using family and social support networks is crucial to recovery and there is higher cultural fertility for recovery and abstinence in some countries than in others.

There is emerging evidence that stigma in local communities can adversely impact on recovery outcomes and, in particular, can discourage those with dependence from seeking help, and can inhibit their chances of employment and social re-integration.

This section covers the link between drug and alcohol recovery outcomes and the cultural capital or the values, beliefs and attitudes that link to social conformity and the ability to fit into dominant social behaviours.

There is a general lack of evidence on the links between cultural capital and recovery outcomes and what evidence exists tends to be quantitative, case studies or surveys.

Social conformity and identity

There is evidence that social conformity, culture and culture of dependent use is important to recovery outcomes.

Evidence from research on heroin-dependent Vietnam veterans shows that many veterans were able to stop heroin dependence and achieve sustained recovery in a relatively short time upon returning 'home'.¹² However, a minority were not able to achieve recovery quickly – and in some instances, at all. There is evidence that this cohort had more pre-existing problems.

There is emerging evidence that many of those in recovery go through an 'identity shift' from an integral part of their self-identity being a 'drug user' or a 'drinker', to being someone who is abstinent or has 'normal patterns' of use, to achieve sustained recovery.^{69,70}

Emerging research evidence indicates that social capital may play a key role in recovery, particularly through the building of non-substance-using family and social support networks. Some researchers have commented that there is higher cultural fertility for recovery and abstinence in some countries rather than others.⁷¹

Researchers for the UK alcohol treatment trial (UKATT) commented that there is a higher cultural fertility for abstinence among drug and alcohol therapists in the USA than in the UK and there is less expectation of abstinence among UK therapists.⁷²

Culture, values and stigma

The role of culture and cultural capital on drug and alcohol use and recovery from dependence is complex.

There is emerging research evidence that stigma negatively affects access to treatment and chances of recovery and reintegration.²

There is emerging evidence that the values, beliefs and attitudes of individuals, communities, the media and government may impact on recovery in a number of ways, including:

- by stigmatising those in recovery;²

- by stigmatising people with active drug or alcohol dependence which may result in them being deterred from seeking state help, or them being treated badly when they do;²
- by acceptance, positive attitudes or normalisation of illegal drug use or excessive alcohol consumption;¹⁵²
- by valuing local community initiatives and support for those in recovery;
- by regarding positively, visible people in recovery.¹⁵³

This area requires further research including how individuals can be best supported through addiction cycles of abstinence and relapse, while minimising stigma against them.

There is emerging research evidence that work with potential employers, including use of non-stigmatising language and modifying attitudes towards drug users, may increase opportunities for those in recovery.²

There is emerging research evidence that communicating positive stories about people in recovery from drug and alcohol dependence can reduce stigma for this group.¹⁵⁴

There is emerging evidence that contact-based training and education programmes targeting medical students and professionals are effective at reducing stigma among these groups.¹⁵⁴

There is emerging research evidence that self-stigma can be reduced through therapeutic interventions and mutual aid.¹⁵⁴

DRUG AND ALCOHOL TREATMENT IMPACT ON RECOVERY OUTCOMES

Many studies of recovery outcomes among those with drug and alcohol dependence have studied the population of those who have been in treatment for substance dependence. As previously discussed in our scoping paper, the severity of substance misuse problems in this population will vary from country to country depending on a number of factors including the types of substances available, the level of drug and alcohol treatment available, the general health and social welfare system and amount of community support and mutual aid. There is research evidence that a minority of those with drug or alcohol dependence access treatment for dependence at any one time. There is evidence that those who are in drug and alcohol treatment are a cohort of the dependent population – with the most severe problems. There is also research evidence that where treatment is available, those with drug and alcohol dependence will utilise treatment episodically. There is a host of research evidence on the impact of drug and alcohol treatment on recovery outcomes. This section provides headlines on some of this.

Drug and alcohol outcomes

There is a host of research evidence that drug and alcohol treatment for dependence has a positive impact and reduces drug and alcohol use while someone is in treatment, for example, daily opiate use and other illicit drug use reducing during and after treatment.^{17,155}

Research that has compared outcomes in different types of treatment has tended to show better outcomes for residential compared to out-patient/community treatment but the starting points of the different treatment cohorts have not been equal, with the residential cohort often having higher pre-treatment levels of drug use and crime.¹⁵⁵

There is emerging research evidence that the provision of substance misuse treatment in prisons can save lives, particularly for people who are alcohol-dependent.

There is conflicting evidence on whether those coerced into drug treatment in England have similar drug use outcomes or worse drug use outcomes than those attending on a voluntary basis. TOP data indicated that referrals from the criminal justice system were 30% less likely to achieve abstinence by six months into treatment than if they self-referred.²⁵ Clients coerced into treatment are as likely as those without coercion to benefit from treatment.¹⁵⁵

Among those with drug dependence, treatment readiness or acknowledging that change is required, predicts retention in treatment (which, as described above, predicts favourable outcomes) and is a more important predictor than socio-demographic, drug use and other background variables.⁶⁶

Research indicates that recovery outcomes are improved in those who are retained in treatment, specifically more than 90 days.⁶⁶ Longer time in treatment is significantly associated with favourable outcomes.^{17,23}

Different studies show that between three and six lifetime treatment episodes is normal before recovery from dependence,^{14,108} while Simpson *et al.* (1990)¹⁷ found that there was an average of six lifetime treatment admissions, regardless of remission or continued use.

However, there is research evidence that indicates that the ‘impact’ of treatment lessens over time when someone leaves treatment.¹⁵⁶ Longer-term or sustained drug and alcohol outcomes appear to be more related to other factors such as establishing and maintaining positive social contexts.¹⁵⁶

Morbidity and mortality

There is research evidence that drug and alcohol treatment can reduce morbidity and mortality among those with drug or alcohol dependence. For example, opioid substitution treatment reduces the risk of death among heroin users participating in treatment.^{157,158}

Employment

Treatment does not appear to have an impact on employment outcomes; those who are employed, generally stay employed, and vice versa for unemployed people.⁶⁶

Crime

There is research evidence from a range of studies that show that drug treatment reduces crime,^{23,24,159} and that long-term abstinence is associated with less criminality.⁸³

Cost-effectiveness

There is research evidence that drug and alcohol treatment is cost-effective. In the USA, the TOPS study found that treatment was cost-effective when associated crime costs were calculated.¹⁵⁵ In the UK, studies show that drug treatment is cost-effective.²⁶ In the EU, alcohol treatment has been shown to be cost-effective – especially in reducing costs to health systems.

CONCLUSIONS

Recovery and recovery capital

The recovery process necessitates achieving or maintaining outcomes across a number of domains. These domains appear to be inter-related and changes in recovery capital in one domain may impact on other recovery domains. Those with greater capital in a number of domains appear to be more successful in achieving voluntary control over their substance dependence.

This review indicates that negative health outcomes may impact on recovery potential in other domains e.g. a modest long-term disability can make achieving social re-integration and employment outcomes more difficult. Similarly, if someone has incurred criminal convictions as a result of drug or alcohol dependence, this may also compromise their ability to achieve recovery outcome in relation to social re-integration. The evidence that employment outcomes are among the most difficult to achieve may be due, in part, to the impact of limited achievement of recovery outcomes in other domains.

We should also be mindful of what we do not know: emerging evidence in the field of genetics for many health conditions indicates that some people have more of a propensity to develop a problem – or overcome that problem. How ‘genetic loading’ applies to drug and alcohol dependence and recovery is an area that merits further research.

Where an individual has limited capital in a number of domains, overcoming severe drug or alcohol dependence or abstinence without progress in other recovery domains is rarely sustained.

This model of recovery domains has the potential to enable our understanding of the risk and resilience factors that influence individual drug or alcohol dependence. If the resilience or outcomes in recovery capital domains are improved, it is likely that voluntary control of drug and alcohol dependence may increase. It therefore follows that any understanding of recovery that does not include reference to these wider outcome domains is limited and may lead to intervention strategies that may not be effective.

Reasons for optimism

There are reasons to be optimistic about the recovery outcomes. Evidence suggests that most people will achieve a range of recovery outcomes during their recovery process, especially with support. Many do achieve sustained control over their drug and alcohol dependence and achieve other recovery outcomes and there is reason to believe sustained recovery outcomes can be improved. The evidence supports the focus on recovery in UK national drug and alcohol strategies and growth in recovery-orientated treatment interventions, recovery community organisations and mutual aid.

Reasons for tempered optimism

Evidence indicates that different groups of people in recovery will have different recovery outcomes based on a range of factors including: their profile and experiences prior to developing dependence; the substances they are dependent on; their recovery capital; access to drug and alcohol treatment and the quality of that treatment; and the collateral damage they have incurred. However, evidence clearly indicates that not everyone with drug and alcohol dependence will overcome dependence and achieve positive drug and alcohol outcomes. This is a complex area as evidence suggests that recovery outcomes for other types of drug dependence are better. Long-term studies of those with heroin dependence indicate that we can expect high premature death rates in this group with less than half of survivors achieving remission.¹³ This clearly has implications for the current drug treatment population in the UK.

Recovery is a very ambitious concept, particularly for some groups

Evidence indicates that those with severe dependence are more likely to have had problems or issues prior to becoming dependent. Drug and alcohol dependence and associated lifestyles can incur significant collateral damage including health problems, economic difficulties or criminal involvement, unemployment etc. The concept of recovery is therefore highly ambitious as it is asking individuals to not only overcome their

dependence but also achieve positive outcomes in health, social and economic functioning that some have never previously had – and all while also trying to manage the consequences of significant collateral damage.

Of particular note is the significant damage to health incurred by many with dependence, including higher rates of premature death, illness and disease. Overcoming drug or alcohol dependence is a difficult process for most people, especially when they have incurred collateral damage. The ‘extra stretch’ to improve health and wellbeing and be a functioning and participating member of society (particularly for those from a deprived background, the fringes of society, and who have never been formally employed) is a huge leap for many. The ambition of recovery should be tempered with realism when thinking about how society can help people maximise recovery outcomes – particularly those with pre-existing problems and collateral damage. A balance is required between an optimistic approach required to maximise recovery outcomes, and a pragmatic approach, without prejudice or stigma, with those who cannot achieve positive recovery outcomes. This group may require extended access to healthcare, treatment and support to help manage their lives and minimise the potential collateral damage of active drug and alcohol dependence on themselves and others.

For some, recovery is a long-term process requiring long-term support

Evidence is clear that for those with severe and complex drug and alcohol dependence and other problems, recovery is rarely short term and is often characterised by periods of use, dependence, attempts at abstinence and relapse. It can be a long-term battle requiring long-term support and a fundamental change in lifestyle. As relapse is common, it may not be possible to judge whether someone ‘achieved a stable drug and alcohol recovery outcome’ until five years after cessation of dependent use.

This has implications for the support and treatment that may be required to maximise recovery outcomes. Those in recovery may require support over a long period of time, that can help them through repeated relapses and attempts to overcome dependence and that can help them build recovery capital in a range of domains including social relationships and networks, health and wellbeing and economic capacity.

The role of drug and alcohol treatment

Drug and alcohol treatment is an important and sometimes critical part of a recovery journey for many, particularly those with severe dependence and other problems. The years of recent prioritisation of, and investment in drug treatment in the UK is to be commended. Evidence supports a continued investment in recovery-orientated treatment for drug and alcohol dependence. Evidence is unequivocal that good quality, evidence-based drug and alcohol treatment can help many people overcome dependence and achieve positive drug and alcohol outcomes. Treatment has been proven to be cost-effective to society and a huge asset to local communities, individuals suffering from drug and alcohol dependence and their families. Access to evidence-based treatment is therefore paramount.

Evidence indicates that the quality of treatment does impact on recovery outcomes and treatment should be person-centred, recovery-orientated, optimistic, well-managed and delivered by a skilled workforce, with ‘success’ modelled by those in recovery. Because recovery from dependence is often a long-term process characterised by relapse, treatment and recovery systems should also be designed to take this into account and not reject or stigmatise people who relapse. The ACMD cautions against treatment which detoxifies people against their will or imposes time-limited opioid-substitute treatment as both these approaches are not in line with the evidence base and are likely to result in relapse and increased risk of harm to individuals and communities.

Individuals should be encouraged and assisted to make progress in achieving positive drug and alcohol outcomes during their treatment and recovery journey and if they cannot, encouraged to act responsibly, to reduce harm to themselves and others.

Evidence indicates that drug and alcohol treatment can play a very important part in the initial process of recovery. The impact of ‘traditional treatment’ which purely focuses on treating dependence is thought to ‘fade’ relatively quickly after someone has left and treatment alone does not create sustained recovery

outcomes in individuals. Person-centred, recovery-orientated treatment and recovery support is therefore advocated, comprising clinical treatment, psychosocial interventions, visible examples of recovery from mutual aid and help to build recovery capital in a number of domains.

Enable sustained recovery by building recovery capital

Achieving sustained drug and alcohol recovery outcomes appears to be linked to the quality and extent of 'recovery capital' an individual has – or can build during a recovery process. This includes: the quality of an individual's non-dependent social networks; finding meaningful activity; quality of housing; health and wellbeing and how they economically sustain themselves. Those who experience 'recovery as the norm' are likely to be those who have high recovery capital in a number of domains. For those with poor recovery capital from the outset, who have incurred collateral damage during drug- or alcohol-dependent lifestyles, recovery may be the exception, especially if they are living in deprivation, on state benefit, unemployed or with a criminal record, with poor health and a paucity of recovery-orientated social networks.

Evidence on the positive role of recovery community organisations and mutual aid to help people build positive recovery-orientated social networks and capacity build local communities is compelling. Therefore a focus on helping individuals build recovery capital in a range of domains and re-integrate into society during a recovery journey is very important.

Supporting sustained recovery: a longer-term approach

Sustained recovery depends on having recovery capital in a number of domains, only one of which is drug and alcohol dependence. This can pose challenges for stakeholders who wish to incentivise improved recovery outcomes. Planning targets and incentives that focus solely on drug and alcohol use may encourage too narrow a focus on this outcome domain without interventions to improve recovery capital necessary to sustain recovery e.g. positive social networks. Similarly, drug and alcohol outcomes measured six months or a year after cessation of dependence tell us very little about the strength of sustained recovery and their progress in a wider range of recovery outcome domains. A narrow focus on only the drug or alcohol use at the expense of this wider approach may be counter-productive and lead to poorer outcomes across *all* domains.

If society does want to support people to achieve recovery from drug and alcohol dependence, a long-term approach is required that supports the process of a radical shift in lifestyle and many years of supported effort. Sustained recovery requires an *extensive* approach – efforts to support change across the range of outcome domains for a number of years, especially for the UK population of ageing heroin users. This task might initially be supported by treatment, but may also benefit from recovery communities, mutual aid and wider social, cultural and economic systems to support the recovery journeys of individuals.

Recovery in communities

Society as a whole will need to welcome and embrace those trying to achieve recovery, from employers to local communities, or they will not achieve the support and social re-integration necessary to sustain freedom from dependence. All members of society have a part to play to create communities where recovery from drug or alcohol dependence is possible and sustainable, including tackling stigma against those seeking help with drug or alcohol problems or those on a recovery journey.

RECOMMENDATIONS

The ACMD recommends that:

- Policy makers, commissioners and treatment and recovery providers look at the different populations of those dependent on drugs or alcohol or in recovery separately (or segment the population) to gain a better understanding of the recovery potential of different groups and target interventions more appropriately.
- Policy makers and commissioners of local systems take an extensive or longer-term approach to recovery from drug and alcohol dependence, with caution around policy initiatives and local systems that expect recovery to occur in the short term for the majority who require treatment without longer-term interventions to support sustained recovery.
- Local commissioners and providers of recovery-oriented systems should support initiatives to build recovery capital in a *range* of recovery outcome domains to enable sustained recovery. A narrow focus on drug and alcohol dependence outcomes without helping individuals build broad-based recovery capital will not maximise recovery outcomes – especially for those with severe and complex dependence on heroin, crack or alcohol and other co-existing problems acquired prior to dependence or during dependence.
- Commissioners, providers, mutual aid groups and local communities should support the development of recovery-orientated drug and alcohol treatment systems.
- The focus on recovery from heroin dependence is welcome but we urge an evidence-based approach which tempers optimism with a recognition that achieving recovery outcomes from heroin dependence is very challenging, especially for those living in a state of ‘capital deprivation’. The push for recovery-orientated opioid-medication-assisted treatment (without blanket time limits) with interventions to maximise outcomes in all recovery domains is commended and should be supported by commissioners and providers.
- Local commissioners and providers should invigorate a focus on achieving health and wellbeing outcomes, especially for those with alcohol and heroin dependence.
- Development of UK mutual aid and Recovery Community Organisations is positive and should be encouraged in local communities by local commissioners, providers and other stakeholders.
- Initiatives are implemented to tackle stigma around recovery from drug and alcohol dependence, especially among employers, media and local communities. A culture should be created where recovery is acceptable and, where possible, celebrated.
- Government should commission additional work to examine in depth international recovery outcome studies to understand the variation in outcome results in similar groups and to glean good practice from studies yielding higher rates of recovery on how to maximise recovery outcomes among different groups (e.g. different substances, genders and ages).
- Government should commission UK long-term studies of recovery from drug and alcohol dependence (not just among those who receive formal treatment), to inform policy and practice.

APPENDIX A: GLOSSARY AND DEFINITIONS

Recovery capital

Recovery capital refers to the ‘breadth and depth of internal and external resources that can be drawn upon to initiate and sustain recovery’ from substance misuse (dependence) (Granfield and Cloud, 2001). In 2008, Granfield and Cloud revisited their initial concept and argued that there are four components to recovery capital.

- Social capital is defined as the sum of resources that each person has as a result of their relationships, and includes both support from and obligations to groups to which they belong; thus, family membership provides support but will also entail commitments and obligations to the other family members.
- Physical capital is defined in terms of tangible assets such as property and money that may increase recovery options (e.g. being able to move away from existing friends/networks or to fund an expensive detoxification service).
- Human capital includes skills, positive health, aspirations and hopes, and personal resources that will enable the individual to prosper. Traditionally, high educational attainment and high intelligence have been regarded as key aspects of human capital, and will help with some of the problem-solving that is required on a recovery journey.
- Cultural capital includes the values, beliefs and attitudes that link to social conformity and the ability to fit into dominant social behaviours.

Treatment

Treatment consists of a range of interventions which are intended to remedy an identified health problem or condition related to a person’s physical, psychological, or social wellbeing.

Treatment for drug or alcohol dependence normally follows a process of assessment and care plan (or recovery care plan) development, delivery and review in partnership with a client. Treatment may consist of a number of sequential or concurrent treatment and recovery interventions.

Treatment interventions are normally provided by competent (experienced, skilled and qualified) staff. They may consist of pharmacological and psychosocial interventions (individual and group). Psychosocial interventions are increasingly co-produced and co-delivered by staff and mutual aid participants.

Mutual aid

Mutual aid or self-help support describes groups of people who have ‘lived experience’ of drug or alcohol dependence who provide help and support for one another. Mutual aid or self-help is typically community-based, peer-led and non-professional and usually consists of face-to-face groups or online community support.

Remission, recovery and abstinence

Research studies from different countries and authors use different terms to describe states of dependence on drugs and alcohol. USA research studies tend to talk about ‘remission from dependence’ meaning someone who was dependent no longer reaches diagnostic criteria for dependence, though they may still use drug or alcohol in a non-dependent way. Those in ‘remission’ may consist of both those who are abstinent and those who are using substances in a non-dependent way. Some studies distinguish those who are abstinent and some do not. When talking about changes in substance use, UK and European research studies tend to talk about how much someone has reduced their use or gained abstinence from drugs or alcohol.

Recovery from drug or alcohol dependence is a wider concept than remission: remission tends to focus on an individual’s substance-using status in terms of whether they are dependent. Recovery is a much wider concept which embraces health and wellbeing and social integration as well as substance-using status. Recovery is used by some authors when purely talking about substance misuse status, which can be confusing.

This paper uses the source authors' terminology, though we try to be explicit about what the authors are talking about, particularly where authors are discussing remission or recovery purely in relation to substance use. Where we have the data, we distinguish between remission and abstinence.

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REFERENCES

- ¹Advisory Council on the Misuse of Drugs (ACMD) (2013) Recovery from drug and alcohol dependence: an overview of the evidence. London: Home Office
- ²UKDPC (2008) A vision of recovery: UKDPC recovery consensus group. London: UK Drug Policy Commission
- ³Betty Ford Institute Consensus Panel (2007) What is Recovery? A Working Definition from The Betty Ford Institute. *Journal of Substance Abuse Treatment*, Vol. 33, pp221-228
- ⁴The Scottish Government (2008) *The Road to Recovery: A New Approach to Tackling Scotland’s Drug Problem*. Edinburgh: The Scottish Government
- ⁵Welsh Assembly Government (2008) *Working together to reduce harm: The substance misuse strategy for Wales 2008–2018*
- ⁶HM Government (2010) *Drug Strategy 2010: Reducing Demand, Restricting Supply, Building Recovery: Supporting People to Live a Drug Free Life*. London: Stationery Office
- ⁷Granfield, R. and Cloud, W. (2001) Social Context and “Natural Recovery”: The Role of Social Capital in the Resolution of Drug-Associated Problems, *Substance Use and Misuse*, Vol. 36, pp1543-1570
- ⁸Lopez-Quintero, C., Hasin, D. S., Pérez de los Cobos, J., Pines, A., Wang, S., Grant, B. and Blanco, C. (2011) Probability and predictors of remission from life-time nicotine, alcohol, cannabis or cocaine dependence: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Addiction*: 2011, 106(3), p. 657–669
- ⁹Department of Health (1996) *Task Force to review services for drug misusers: report of an Independent Review of Drug Treatment Services in England*. London: Department of Health, 1996
- ¹⁰McLellan, A. T., Lewis, D.C., O'Brien, C.P. and Kleber, H. D. (2000) Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. *JAMA*. 2000 Oct 4;284(13):1689-95
- ¹¹White, W. L. (2012) *Recovery/Remission from Substance Use Disorders: An Analysis of Reported Outcomes in 415 Scientific Reports, 1868–2011*. Philadelphia: Philadelphia Department of Behavioral Health and Intellectual Disability
- ¹²Robins, L. N., Davis, D. H. and Goodwin, D. W. (1974) Drug use by US Army enlisted men in Vietnam: A follow-up on their return home. *American Journal of Epidemiology*, 99, 235-249
- ¹³National Treatment Agency for Substance Misuse (2012) *Medications in recovery: re-orientating drug dependence treatment*
- ¹⁴Calabria, B., Degenhardt, L., Briegleb, C. *et al.*, (2010) Systematic review of prospective studies investigating “remission” from amphetamine, cannabis, cocaine or opioid dependence. *Addictive Behaviours* 35: 741–749
- ¹⁵Hser, Y. I. (2007) Predicting long-term stable recovery from heroin addiction: Findings from a 33-year follow-up study. *Journal of Addictive Diseases* 26: 51–60
- ¹⁶Grella, C. E. and Lovinger, K. (2011) 30-year trajectories of heroin and other drug use among men and women sampled from methadone treatment in California. *Drug and Alcohol Dependence* 118: 251-258
- ¹⁷Simpson, D. D. and Sells, S. B. (Eds.) (1990) *Opioid addiction and treatment: A 12-year follow-up*. Malabar, F.L.: Krieger
- ¹⁸Marsden, J., Farrell, M., Bradbury, C., Dale-Perera, A., Eastwood, B., Roxburgh, M. and Taylor, S. (2008) Development of the Treatment Outcomes Profile. *Addiction* 2008 Sep;103(9):1450-60

-
- ¹⁹ National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) (2010) Alcohol Use and Alcohol Use Disorders in the United States, A 3-Year Follow-Up: Main Findings from the 2004–2005 Wave 2, Alcohol Epidemiologic Data Reference Manual, Volume 8, Number 2, September 2010, NIH Publications No. 10-7677
- ²⁰ Waldorf, D. (1983) Natural recovery from opiate addiction: Some social-psychological processes of untreated recovery. *Journal of Drug Issues*, 13(2), 237-80
- ²¹ Drummond, C., Gual, A., Goos, C., Godfrey, C., Deluca, P., Von Der Goltz, C., Gmel, G., Scafato, E., Wolstenholme, A., Mann, K., Coulton, S. and Kaner, E. (2012) Identifying the gap between need and intervention for alcohol use disorders in Europe. *Addiction*. 2011 Mar;106 Suppl 1:31-6
- ²² European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) European Drug Report 2013: Trends and developments. Lisbon: EMCDDA. May 2013
- ²³ Simpson, D. D., Joe, G. W. and Bracy, S. A. (1982) Six-year follow-up of opioid addicts after admission to treatment. *Archives of General Psychiatry*, 39(11), 1318-1323
- ²⁴ Gossop, M., Marsden, J., Stewart, D. and Rolfe, A. (2000) Reductions in acquisitive crime and drug use after treatment of addiction problems: 1-year follow-up outcomes. *Drug Alcohol Depend* 2000 Feb 1;58(1-2):165-72
- ²⁵ National Treatment Agency for Substance Misuse (2012) Estimating the crime reduction benefits of drug treatment and recovery. London: National Treatment Agency for Substance Misuse
- ²⁶ Gossop, M., Marsden, J. and Stewart, D. (2001) NTORS after five years: changes in substance use, health and criminal behaviour during the five years after intake. London: Department of Health
- ²⁷ Rajkumar, A. and French, M. (1997) Drug abuse crime costs and the economic benefits of treatment. *Journal of Quantitative Criminology* September 1997, Volume 13, Issue 3, pp 291-323
- ²⁸ White, W. (2008) Recovery management and recovery-oriented systems of care: Scientific rationale and promising practices. Pittsburgh, PA: Northeast Addiction Technology Transfer Center, Great Lakes Addiction Technology Transfer Center, Philadelphia Department of Behavioral Health & Mental Retardation Services
- ²⁹ Jones, A., Donmall, M., Millar, T., Moody, A., Weston, S., Anderson, T., Gittins, M., Abeywardana, V. and D'Souza, J. (2009) The Drug Treatment Outcomes Research Study (DTORS): Final outcomes report 3rd Edition. London: Home Office 2009
- ³⁰ National Treatment Agency for Substance Misuse (2012) The role of residential rehab in an integrated treatment system. London: National Treatment Agency for Substance Misuse
- ³¹ McKeaganey, K., Bloor, M., Roberston, M., Neale, J. and MacDougall, J. (2006) Abstinence and drug abuse treatment: Results from the Drug Outcome Research in Scotland study
- ³² Department of Health (England) and the devolved administrations (2007) Drug Misuse and Dependence: UK Guidelines on Clinical Management. London: Department of Health (England), the Scottish Government, Welsh Assembly Government and Northern Ireland Executive
- ³³ Tobutt, C., Oppenheimer, E., Laranjeira, R. (1996) Health of cohort of heroin addicts from London clinics: 22 year follow-up. *BMJ*. 1996 June 8; 312(7044): 1458
- ³⁴ Rehm, J., Shield, K. D., Rehm, M. X. and Frick, U. (2012) Alcohol consumption, alcohol dependence and attributable burden of disease in Europe: potential gains from effective interventions for alcohol dependence. Toronto: Centre for Addiction and Mental Health
- ³⁵ NICE (2009) Public health guidance 18 – Needle and syringe programmes: providing people who inject drugs with injecting equipment. London: NICE

-
- ³⁶Cornish, R., Macleod, J., Strang, J., Vickerman, P. and Hickman, M. (2010) Risk of death during and after opiate substitution treatment in primary care: prospective observational study in UK General Practice Research Database. *BMJ*. 2010 Oct 26;341:c5475
- ³⁷Merrall, E. L. C., Kariminia, A., Binswanger, I. A., Hobbs, M. S., Farrell, M., Marsden, J., Hutchinson, S. J. and Bird, S. M. (2010), Meta-analysis of drug-related deaths soon after release from prison. *Addiction*, 105: 1545–1554
- ³⁸Bird, S. M. and Hutchinson, S. J. (2003) Male drugs-related deaths in the fortnight after release from prison: Scotland, 1996-99. *Addiction* 2003 Feb;98(2):185-90
- ³⁹Davoli, M., Bargagli, A. M., Perucci, C. A., Schifano, P., Belleudi, V., Hickman, M., Salamina, G., Diecidue, R., Vigna-Taglianti, F. and Faggiano, F. VEdette Study Group (2007) Risk of fatal overdose during and after specialist drug treatment: the VEdette study, a national multi-site prospective cohort study. *Addiction* 2007 Dec;102(12):1954-9
- ⁴⁰Rhodes, T. (2002) The “risk environment”: a framework for understanding and reducing drug-related harm. *International Journal of Drug Policy*, 2002; 13:85-94
- ⁴¹Advisory Council on the Misuse of Drugs (ACMD) (1988) *AIDS & Drug Misuse Part 1*. London: Home Office
- ⁴²Advisory Council on the Misuse of Drugs (ACMD) (1998) *Drug Misuse and the Environment*. London: Home Office
- ⁴³El-Bassel, N., Gilbert, L., Wu, E., Go, H. and Hill, J. Relationship between drug abuse and intimate partner violence: a longitudinal study among women receiving methadone. *Am J Public Health*. 2005 Mar;95(3):465-70
- ⁴⁴Goodwin, D. W. (1983) The Genetics of Alcoholism *Hosp Community Psychiatry*. 1983 Nov;34(11):1031-4
- ⁴⁵NICE (2007) NICE clinical guideline 51 – Drug misuse: Psychosocial interventions. London: NICE
- ⁴⁶UKDPC (2012) *The Forgotten Carers: Support for adult family members affected by a relative’s drug problems (2012)*
- ⁴⁷O’Farrell, T.J. and Fals-Stewart, W. (2006) *Behavioral couples therapy for alcoholism and drug abuse*. Guilford Press; New York: 2006
- ⁴⁸Brown, R. and Ward, H. (2012) *Decision-making within a child’s timeframe: an overview of current research evidence for family justice professionals concerning child development and the impact of maltreatment*. Childhood Wellbeing Research Centre
- ⁴⁹Achara-Abrahams, I., Evans, A. C. and Kenerson King, J. (2011) *Recovery-Focused Behavioral Health System Transformation: A Framework for Change and Lessons Learned from Philadelphia*. *Current Clinical Psychiatry, Addiction Recovery Management*, 2011, Part 3, 187-208
- ⁵⁰White, W. L. (2007) A recovery revolution in Philadelphia. *Counselor*, 8(5), 34-38
- ⁵¹Fiorentine, R. (1999) After drug treatment: are 12-step programs effective in maintaining abstinence? *Am J Drug Alcohol Abuse*. 1999 Feb;25(1):93-116
- ⁵²Kelly, J. F., Hoepfner, B., Stout, R. L. and Pagano, M. (2012) Determining the relative importance of the mechanisms of behaviour change within Alcoholics Anonymous: a multiple mediator analysis. *Addiction* 2012 Feb;107(2):289-99
- ⁵³Gossop, M., Marsden, J. and Stewart, D. (1998) *NTORS at one year: changes in substance use, health and criminal behaviour one year after intake*. London: Department of Health

-
- ⁵⁴Timko, C., DeBenedetti, A. and Billow, R. (2006) Intensive referral to 12-step self-help groups and 6-month substance use disorder outcomes. *Addiction*, 101: 678-688
- ⁵⁵Tonigan, J. S. and Rice, S. L. (2010) Is it beneficial to have an alcoholics anonymous sponsor? *Psychology of Addictive Behaviours*; *Psychology of Addictive Behaviours*, 24(3), 397
- ⁵⁶William, L. and White, W. L. (2009) *Peer-based Addiction Recovery Support History, Theory, Practice, and Scientific Evaluation*. Philadelphia: Great Lakes Addiction Technology Transfer Center Philadelphia Department of Behavioral Health and Mental Retardation Services
- ⁵⁷Kownacki, R. J. and Shadish, W. R. (1999) Does Alcoholics Anonymous Work? The Results from a Meta-Analysis of Controlled Experiments. *Substance Use & Misuse*, 34/13, 1897-1916
- ⁵⁸Gossop, M., Marsden, J., Stewart, D. and Kidd, T. (2003) The National Treatment Outcome Research Study (NTORS): 4–5 year follow-up results. *Addiction*, 2003 Mar; 98(3):291-303
- ⁵⁹Constant, A., Lafont, S., Chiron, M., Zins, M., Lagarde, E. and Messiah, A. (2010) Failure to reduce drinking and driving in France: a 6-year prospective study in the GAZEL cohort. *Addiction*, 2010 January; 105(1): 57–61
- ⁶⁰Scottish Drugs Forum (2007) *Drugs and poverty: a literature review*. Edinburgh: Scottish Drugs Forum
- ⁶¹Chartered Institute of Housing (CIH) (2012) *The role of housing in drugs recovery: A practice compendium*. Coventry: CIH
- ⁶²Milby, J. B., Schumacher, J. E., Wallace, D., Vuchinich, R., Mennemeyer, S. T. and Kertesz, S. G. (2010) Effects of Sustained Abstinence Among Treated Substance-Abusing Homeless Persons on Housing and Employment. *American Journal of Public Health*, May 2010, Vol. 100, No. 5, pp913-918
- ⁶³Rutter, D. (1994) *Keys to Change: a study of the role of local authority housing in care and rehabilitation of drug and alcohol users in the London borough of Lambeth*. London: Home Office
- ⁶⁴Bauld, L., Hay, G., McKell, J. and Carroll, C. (2010) *Problem drug users' experiences of employment and the benefit system*. Project Report. Department for Work and Pensions
- ⁶⁵Stöver, H. (2012) Assessing the current state of public-health-related outcomes in opioid dependence across Europe: data from the EQUATOR analysis. *Heroin Addict Relat Clin Probl* 2012; 14(4): 51-64
- ⁶⁶Simpson, D. D. and Flynn, P.M. (2008) *Drug Abuse Treatment Outcome Studies (DATOS): A national evaluation of treatment effectiveness*. In G. Fisher & N. Roget, (Eds.), *Encyclopaedia of Substance Abuse Prevention, Treatment, and Recovery* (pp. 303-307). Thousand Oaks, CA: Sage Publishing
- ⁶⁷McIntosh, J., Bloor, M. and Robertson, M. (2008), *Drug treatment and the achievement of paid employment*, *Addiction Research and Theory*, 16: pp.37-45
- ⁶⁸Kemp, P. and Neale, J. (2005) *Employability and problem drug users*, *Critical Social Policy*, Vol. 25(1): 28-46
- ⁶⁹West, R. (2005) *Theory of Addiction*. Oxford: Blackwell Publishing Ltd.
- ⁷⁰West, R. (2013) *Models of Addiction*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)
- ⁷¹Mankowski, E., Humphreys, K. and Moos, R. (2001) Individual and contextual predictors of involvement in 12-step self-help groups after substance abuse treatment. *American Journal of Community Psychology*. 2001;29(4):537–563

-
- ⁷²Heather, N., Adamson, S. J., Raistrick, D. and Slegg, G. P. UKATT Research Team (2010) Initial preference for drinking goal in the treatment of alcohol problems: I. Baseline differences between abstinence and non-abstinence groups. *Alcohol* 2010 Mar-Apr;45(2):128-35
- ⁷³Shekelle, P. G., Woolf, S. H., Eccles, M. and Grimshaw, J. (1999) Clinical Guidelines: Developing Guidelines: *BMJ*. 1999 February 27; 318(7183): 593–596
- ⁷⁴Lingford-Hughes, A. R., Welch, S., Peters, L. and Nutt, D. J. (2012) BAP updated guidelines: evidence-based guidelines for the pharmacological management of substance abuse, harmful use, addiction and comorbidity: recommendations from BAP. *J Psychopharmacol*. 2012 Jul;26(7):899-952
- ⁷⁵Stimson, G. V. (1995) Aids and injecting drug use in the United Kingdom, 1987-1993: The policy response and the prevention of the epidemic. *Social Science and Medicine*, 41, 699-716
- ⁷⁶Cabinet Office (1998) *Tackling Drugs to Build a Better Britain*. London: Cabinet Office
- ⁷⁷UK Drug Strategy Directorate (2002) *Updated Drug Strategy 2002*. London: Home Office
- ⁷⁸De Soto, C. B., O'Donnel, W. E. and De Soto, J. L. (1989) Long-term recovery in alcoholics. *Alcoholism: Clinical and Experimental Research*, 13, 693-697
- ⁷⁹Vaillant, G. E. (1996) A long-term follow-up of male alcohol abuse. *Archives of General Psychiatry*, 53, 243-249
- ⁸⁰Jin, H., Rourke, S. B., Patterson, T. L., Taylor, M. J. and Grant, I. (1998) Predictors of relapse in long-term abstinent alcoholics. *Journal of Studies on Alcohol*, 59,640-646
- ⁸¹Dennis, M. and Scott, C. K. (2007) Managing addiction as a chronic condition. *Addiction Science & Clinical Practice*. 2007;4(1):45-55
- ⁸²Vaillant, G. E. (2003) A 60-year follow-up of alcoholic men. *Addiction* 98: 1043-1051
- ⁸³Hser, Y. I., Hoffman, V., Grella, C. E. and Anglin, M. D. (2001) A 33-year follow up of narcotics addicts. *Arch Gen Psychiatry* 2001;58:503-508
- ⁸⁴Loosen, P. T., Dew, B. W. and Prange, A. J. (1990) Long-term predictors of outcome in abstinent alcoholic men. *American Journal of Psychiatry*, 147, 1662-1666
- ⁸⁵World Health Organization (1992) *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. WHO
- ⁸⁶American Psychiatric Association (2013) *The Diagnostic and Statistical Manual of Mental Disorders (5th edition) DSM-5*
- ⁸⁷Anthony, J. C., Warner, L.A. and Kessler, R. C. (1994). Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: Basic findings from the National Comorbidity Survey. *Exp Clin Psychopharmacol* 2:244–268
- ⁸⁸Robins, L. N., Locke, B. Z. and Regier, D. A. (1991) An overview of psychiatric disorders in America. In *Psychiatric Disorders in America: The Epidemiologic Catchment Area Study* (eds. L. M. Robins & D. A. Regier), pp.328-366. Free Press: New York
- ⁸⁹Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H. U. and Kendler, K. S. (1994) Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry* 51, 8-19
- ⁹⁰Kessler, R. C., Chiu, W. T., Demler, O. and Walters, E. E. (2005) Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication

-
- ⁹¹Dawson, D. A. (1996) Correlates of past-year status among treated and untreated people with former alcohol dependence. *Alcohol. Clin. Exp. Res.*1996a;20:771–779
- ⁹²Hasin, D., Van Rossem, R., McCloud, S. and Endicott, J. (1997). Alcohol dependence and abuse diagnoses: Validity in community sample heavy drinkers. *Alcoholism: Clinical and Experimental Research* 21:213–219, 1997c
- ⁹³Dawson, D. A., Grant, B. F., Stinson, F. S., Chou, P. S., Huang, B. and Ruan, W. J. (2005) Recovery From DSM–IV Alcohol Dependence. *Addiction* (2005) 100:281-292
- ⁹⁴Compton, W. M., Thomas, Y. F., Stinson, F. S. and Grant, B. F. (2007) Prevalence, correlates, disability, and comorbidity of DSM-IV drug abuse and dependence in the United States. *Archives of General Psychiatry.* 2007;64:566–576
- ⁹⁵Hasin, D. S., Stinson, F. S., Ogburn, E. and Grant, B. F. (2007) Prevalence, correlates, disability, and comorbidity of DSM-IV alcohol abuse and dependence in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Archives of General Psychiatry.* 2007;64:830–842
- ⁹⁶Dawson, D. A., Li, T-K. and Grant, B. F. (2008) A prospective study of risk drinking: At risk for what? *Drug and Alcohol Dependence.* 2008;95:62–72
- ⁹⁷Rathod, N. H., Addenbrooke, W. M. and Rosenbach, A. F. (2005) Heroin dependence in an English town: 33-year follow-up. *Br J Psychiatry.* 2005 Nov;187:421-5
- ⁹⁸Marsden, J., Eastwood, B., Bradbury, C., Dale-Perera, A., Farrell, M., Hammond, P., Knight, J., Randhawa, K. and Wright, C. (2009) Effectiveness of community treatments for heroin and crack cocaine addiction in England: a prospective, in-treatment cohort study. *The Lancet*, 374, 9697, 1262 - 1270
- ⁹⁹Edens, E., Glowinski, A., Grazier, K. and Bucholz, K. (2008). The 14-year course of alcoholism in a community sample: do men and women differ? *Drug Alcohol Depend.* 2008 Jan 11;93(1-2):1-11
- ¹⁰⁰Jacob, T., Koenig, L. and Haber, J. (2009) Drinking Trajectories from Adolescence to the Fifties Among Alcohol-Dependent Men. *J Stud Alcohol and Drugs* 2009 November: 70 (6); 859-869
- ¹⁰¹Schuckit, M., Smith, T. and Landi, N. (2000) The 5-year clinical course of high-functioning men with DSM-IV alcohol abuse or dependence. *Am J Psychiatry.* 2000 Dec;157(12):2028-35
- ¹⁰²Brennan, P., Schutte, K. and Moos, R. (2011) Twenty-Year Alcohol-Consumption and Drinking-Problem Trajectories of Older Men and Women. *J Stud Alcohol and Drugs* 2011 March: 72 (2); 308-321
- ¹⁰³Simpson, D., Joe, G. and Broome, K. (2002) Drug Abuse Treatment Outcome Study (DATOS)
- ¹⁰⁴Perkonig, A., Goodwin, R. D., Fiedler, A., Behrendt, S., Beesdo, K., Lieb, R. and Wittchen, H. U. (2008) The natural course of cannabis use, abuse and dependence during the first decades of life. *Addiction.* 2008 Mar;103(3):439-49; discussion 450-1
- ¹⁰⁵NTA (2012) Data from the Treatment Outcomes Profile (TOP) – unpublished and presented to the Recovery Committee on 27 September 2012
- ¹⁰⁶United Nations Office on Drugs and Crime (2010) World Drug Report
- ¹⁰⁷Hoolachan, J., Hecht, G., Galbraith, L. and Graham, L. (2013) The National Drug-related Deaths database, Information Services Division: ISD Scotland (2013)

-
- ¹⁰⁸Macleod, J., Copeland, L., Hickman, M., McKenzie, J., Kimber, J., De Angelis, D. and Robertson, J. R. (2010) The Edinburgh Addiction Cohort: recruitment and follow-up of a primary care based sample of injection drug users and non-drug-injecting controls. *BMC Public Health* 2010, 10:101
- ¹⁰⁹Strang, J., Hall, W., Hickman, M. and Bird, S. (2010) Impact of supervision of methadone consumption on deaths related to methadone overdose (1993–2008): analyses using OD4 index in England and Scotland. *BMJ* 2010;341:c4851
- ¹¹⁰National Records of Scotland (2012) Drug-related deaths in Scotland in 2011, Table 3, National Statistics publication for Scotland
- ¹¹¹UNAIDS (2012) Global Fact Sheet: World AIDS Day 2012. Geneva: UNAIDS
- ¹¹²MacArthur, G. J., Minozzi, S., Martin, N., Vickerman, P., Deren, S., Bruneau, J., Degenhardt, L. and Hickman, M. (2012) Opiate substitution treatment and HIV transmission in people who inject drugs: systematic review and meta-analysis. *BMJ* 2012;345:e5945
- ¹¹³Gibson, D. R., Flynn, N. M. and Perales, D. (2001) Effectiveness of syringe exchange programs in reducing HIV risk behaviour and HIV seroconversion among injecting drug users. *AIDS* 15 (11), 1329-1341
- ¹¹⁴Wodak, A. and Cooney, A. (2004) Effectiveness of sterile needle and syringe programming in reducing HIV/AIDS among injecting drug users. Geneva: World Health Organization
- ¹¹⁵Kall, K., Hermansson, U., Amundsen, E. J. and Ronnback, S. (2007) The effectiveness of needle exchange programmes for HIV prevention: a critical review. *The Journal of Global Drug Policy and Practice* 1 (3)
- ¹¹⁶Tilson, H., Aramrattana, A., Bozette, S. A., Celentano, D. D., Falco, M. and Hammett, T. M. (2006) Preventing HIV infection among injecting drug users in high risk countries: an assessment of the evidence. Washington DC, The National Academies Press
- ¹¹⁷Jones, L., Pickering, L., Sumnall, H., McVeigh, J. and Bellis, M. A. (2008) A review of the effectiveness and cost-effectiveness of needle and syringe programmes for injecting drug users. Liverpool: Centre for Public Health, Liverpool John Moores University
- ¹¹⁸Jones, L., Pickering, L., Sumnall, H., McVeigh, J. and Bellis, M. A. (2010) Optimal provision of needle and syringe programmes for injecting drug users: A systematic review
- ¹¹⁹Rhodes, T., Sarang, A., Vickerman, P. and Hickman, M. (2010) Policy resistance to harm reduction for drug users and potential effect of change. *BMJ* 2010; 341:c3439
- ¹²⁰Health Protection Agency (HPA) (2012a) Data tables of the Unlinked Anonymous Monitoring Survey of HIV and Hepatitis in People Who Inject Drugs: Surveillance Update July 2012. London: Health Protection Agency
- ¹²¹Health Protection Agency (HPA) (2012b) Hepatitis C in the UK. London: Health Protection Agency Centre for Infections
- ¹²²Corrao, G. and Aricò, S. (1998) Independent and combined action of hepatitis C virus infection and alcohol consumption on the risk of symptomatic liver cirrhosis. *J Hepatology* 27(4) 914–919
- ¹²³Turner, K. M., Hutchinson, S., Vickerman, P., Craine, N., Palmateer, N., May, M., Taylor, A., De Angelis, D., Cameron, S., Parry, J., Lyons, M., Goldberg, D., Allen, E. and Hickman, M. (2011) The impact of needle and syringe provision and opiate substitution therapy on the incidence of hepatitis C virus in injecting drug users: pooling of UK evidence. *Addiction* 106(11), 1978–1988
- ¹²⁴Vickerman, P., Martin, N., Turner, K. and Hickman, M. (2012) Can needle and syringe programmes and opiate substitution therapy achieve substantial reductions in hepatitis C virus prevalence? *Addiction*: 2012, 107, p. 1984–1995

-
- ¹²⁵Martin, N. K., Vickerman, P., Miners, A., Foster, G. R., Hutchinson, S. J., Goldberg, D. J. and Hickman, M. (2012) Cost-effectiveness of hepatitis C virus antiviral treatment for injection drug user populations. *J Hepatology* (2012) 55(1):49-57
- ¹²⁶Curran, C., Byrappa, N. and McBride, A. (2004) Stimulant psychosis: systematic review. *The British Journal of Psychiatry* (2004) 185: 196-204
- ¹²⁷Advisory Council on the Misuse of Drugs (ACMD) (2008) Cannabis: Classification and Public Health. London: Home Office
- ¹²⁸Department of Health (2011) A summary of the health harms of drugs. London: National Treatment Agency for Substance Misuse
- ¹²⁹Mueser, K. T., Drake, R. E. and Miles, K. M. (2010) The course and treatment of substance use disorder in persons with severe mental illness. *NIDA* 1997;172:86-109
- ¹³⁰Regier, D., Farmer, M., Rae, D., Locke, B., Keith, S., Judd, L. and Goodwin, F. (1990) Comorbidity of Mental Disorders With Alcohol and Other Drug Abuse Results From the Epidemiologic Catchment Area (ECA) Study
- ¹³¹Wilens, T. E., Martelon, M., Joshi, G., Bateman, C., Fried, R., Petty, C. and Biederman, J. (2011) Does ADHD predict substance-use disorders? A 10-year follow-up study of young adults with ADHD. *J Am Acad Child Adolesc Psychiatry* 2011 Jun;50(6):543-53
- ¹³²Weaver, T., Madden, P., Charles, V., Stimson, G., Renton, A., Tyrer, P. *et al.*, (2003) Comorbidity of Substance Misuse and Mental Illness in Community Mental Health and Substance Misuse Service. *British Journal of Psychiatry* 183, 304–313
- ¹³³Drake, R. E., Osher, F. C. and Wallach, M. A. (1989) Alcohol use and abuse in schizophrenia. *J Nerv Ment Dis.* 1989 Jul;177(7):408-14
- ¹³⁴Osher, E., Drake, R., Noordsy, D., Teague, G., Hurlbut, S., Biesanz, J., and Beaudett, M. (1994) Correlates and outcomes of alcohol use disorder among rural schizophrenic outpatients. *Journal of Clinical Psychiatry*, 55:109-113, 1994
- ¹³⁵Drake, R., Rosenberg, S. and Mueser, K. (1996) Assessing substance use disorder in persons with severe mental illness. *New Dir Ment Health Serv.* 1996 Summer;(70):3-17
- ¹³⁶Bartels, S. J., Drake, R. E. and Wallach, M. A. (1995) Long-term course of substance use disorders among patients with severe mental illness *Psychiatr Serv.* 1995 Mar;46(3):248-51
- ¹³⁷Drake, R. E. and Wallach, M. A. (1993) Moderate drinking among people with severe mental illness. *Hospital & Community Psychiatry*, 44(8), 780–782
- ¹³⁸Cuffel, B.J. and Chase, P. (1994) Remission and relapse of substance use disorders in schizophrenia. Results from a one-year prospective study. *J Nerv Ment Dis.* 1994 Jun;182(6):342-8
- ¹³⁹Verheul, R., van den Brink, W., Koeter, M. W. J. and Hartgers, C. (1999) Antisocial Alcoholic Patients Show as Much Improvement at 14-Month Follow-up as Non-Antisocial Alcoholic Patients. *The American Journal on Addictions* 8:24–33, 1999
- ¹⁴⁰Cloud, W. and Granfield, R. (2008) Conceptualizing Recovery Capital: Expansion of a Theoretical Construct. *Substance Use & Misuse*, 43:1971–1986
- ¹⁴¹Christoffersen, M. N. and Soothill, K. (2003) The long-term consequences of parental alcohol abuse: a cohort study of children in Denmark, *Journal of Substance Abuse Treatment* 25 (2003) 107 – 116

-
- ¹⁴²Atkins, R. G. Jr. and Hawdon, J. E. (2007) Religiosity and participation in mutual aid support groups for addiction. *Journal of Substance Abuse Treatment*, 33(3), 321–331
- ¹⁴³Pagano, M. E., Friend, K. B., Tonigan, J. S. and Stout, R. L. (2004) Helping other alcoholics in Alcoholics Anonymous and drinking outcomes: Findings from Project MATCH. *Journal of studies on alcohol*, 65(6), 766
- ¹⁴⁴Crape, B. L., Latkin, C. A., Laris, A. S. and Knowlton, A. R. (2002) The effects of sponsorship in 12-step treatment of injection drug users. *Drug and Alcohol Dependence*, 65(3), 291-301
- ¹⁴⁵McSweeney, T., Turnbull, P. J. and Hough, M. (2004) A Review of Criminal Justice interventions for drug users, National Audit Office, 2004
- ¹⁴⁶HM Government (2010) Responses to Consultation: Rebalancing The Licensing Act. London: Home Office
- ¹⁴⁷Home Office (2011) Drug misuse declared, Findings from the British Crime Survey
- ¹⁴⁸Harrison, L. and Gardiner, E. (1999) Do the rich really die young? Alcohol-related mortality and social class in Great Britain, 1988–94. *Addiction* 1999;94:1871-80
- ¹⁴⁹The Scottish Government (2010) Research for Recovery: A review of the drugs evidence base. Edinburgh: The Scottish Government
- ¹⁵⁰White, W. (2000) Toward a New Recovery Movement: Historical Reflections on Recovery, Treatment and Advocacy
- ¹⁵¹Bellis, M. A., Lowey, H., Leckenby, N., Hughes, K. and Harrison, D. (2013) Adverse childhood experiences: retrospective study to determine their impact on adult health behaviours and health outcomes in a UK population. *Journal of Public Health*, 2013 Apr 14
- ¹⁵²Terlecki, M. A., Larimer, M. E. and Copeland, A. L. (2010) Clinical outcomes of a brief motivational intervention for heavy drinking mandated college students: a pilot study. *J Stud Alcohol Drugs*. 2010 Jan;71(1):54-60
- ¹⁵³White, W. (2000) Toward a new recovery movement: Historical reflections on recovery, treatment and advocacy. Presented at Recovery Community Support Program (RCSP) Conference, April 3–5, 2000
- ¹⁵⁴Livingston, J. D. *et al.* (2012) The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review. *Addiction*, Volume 107, Issue 1, pages 39–50, January 2012
- ¹⁵⁵Hubbard, R. L., Marsden, M. E., Rachal, J. V., Harwood, H. J., Cavanaugh, E. R. and Ginzburg, H. M. (Eds.) (1989) *Drug Abuse Treatment: A National Study of Effectiveness*. Chapel Hill, NC: University of North Carolina Press
- ¹⁵⁶Moos, R. H. (2003) Addictive Disorders in Context: Principles and Puzzles of Effective Treatment and Recovery. *Psychology of Addictive Behaviours* 17; 1: 3-12
- ¹⁵⁷Clausen, T., Anchersen, K. and Waal, H. (2008) Mortality prior to, during and after opioid maintenance treatment (OMT); a national, prospective cross-registry study. *Drug and Alcohol Dependence* 94: 151-57
- ¹⁵⁸Romelsjö, A., Engdahl, B., Stenbacka, M., Fugelstad, A., Davstad, I., Leifman, A. and Thiblin, I. (2010) Were the changes to Sweden’s maintenance treatment policy 2000-06 related to changes in opiate-related mortality and morbidity? *Addiction* 105(9):1625-32
- ¹⁵⁹Millar, T., Jones, A., Donmall, M. and Roxburgh, M. (2008) Changes in Offending Following Prescribing Treatment for Drug Misuse. National Treatment Agency for Substance Misuse Research Briefing 35