UNIVERSITY OF SOUTHAMPTON

FACULTY OF ENVIRONMENTAL AND LIFE SCIENCES

SCHOOL OF HEALTH SCIENCES

Journeys of recovery following a hospital based alcohol detoxification programme: a mixed methods study

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ABSTRACT

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JOURNEYS OF RECOVERY FOLLOWING A HOSPITAL BASED ALCOHOL DETOXIFICATION PROGRAMME: A MIXED METHODS STUDY

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Within the last two decades, there has been a shift towards incorporating the recovery model within statutory services delivered for people with alcohol dependence in the UK. Nevertheless there is little consensus about what type of process recovery is, how services can facilitate recovery, or how to determine the effectiveness of recovery oriented services.

This study aims to contribute to understanding the process of recovery from alcohol dependence, to identify factors that can support and hinder recovery, and to compare two recovery pathways following detoxification in a general hospital setting.

A pragmatic mixed methods approach was used, integrating two different types of analysis. Firstly, a thematic analysis of up to four semi-structured interviews with patient participants over the course of a year (N=24); principles from contextual behavioural science were applied to the findings. Secondly, a retrospective analysis of routinely collected data (N=742) in which the following outcomes were explored: survival, further detoxification events, readmissions to hospital and Emergency Department attendances.

Active change often followed a crisis event, and this involved changes in awareness, behaviour and decision making. Professional, family and peer-group relationships were central to this process, providing opportunities to open up, validation of expressions of vulnerability, and experiences of commonality with others. New `rules' were adopted in order to initiate abstinence, which initially involved avoiding alcohol and triggers; avoidance based rules were gradually replaced by those that led to engagement with valued aspects of living.

Interventions from an Alcohol Specialist Nurse Service in hospital supported a significant number of people to orient to recovery during the first few weeks after detoxification, and a wider network of support was employed as recovery got underway. Traditional alcohol specialist services were underutilised after detoxification, and participants often experienced barriers to accessing community alcohol and mental health services when seeking help. Those with more `recovery capital' (in terms of potential for health, mental health, social networks and employment) reported more progress in recovery, and had fewer negative outcomes.

Traditional models of community treatment are not serving this group of patients, and alternative pathways to support ongoing recovery could be more widely developed; these would ideally be informed by an understanding of the process of change.

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DECLARATION OF AUTHORSHIP

I, Lucy Anne Dorey

declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

Journeys of recovery following a hospital based alcohol detoxification programme: a mixed methods study

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. [Delete as appropriate] None of this work has been published before submission [or] Parts of this work have been published as: [please list references below]:

Signed: .....

Date: .....

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With the oversight of my main supervisor, editorial advice has been sought. No changes of intellectual content were made as a result of this advice.

Abbreviations

AA	ALCOHOLICS ANONYMOUS
AAF	ALCOHOL-ATTRIBUTABLE FRACTION
AAQ-SA	ACCEPTANCE AND ACTION QUESTIONAIRRE- SUBSTANCE ABUSE
ACT	ACCEPTANCE AND COMMITMENT THERAPY
APMS	ADULT PSYCHIATRIC MORBIDITY SURVEY
ASNS	ALCOHOL SPECIALIST NURSE SERVICE
AUDIT	ALCOHOL USE DISORDERS IDENTIFICATION TEST
BRIEF-INT	RECOVERY PATHWAY FOR PRIMARILY TOWN BASED COHORT
CBS	CONTEXTUAL BEHAVIOURAL SCIENCE
CHIA	CARE AND HEALTH INFORMATION ANALYTICS
CIWAR	CLINICAL INSTITUTE WITHDRAWAL ASSESSMENT FOR ALCOHOL
CORG	CLINICAL OUTCOMES RESEARCH GROUP
CSU	CENTRAL COMMISSIONING UNIT
EXT-INT	RECOVERY PATHWAY FOR CITY BASED COHORT
HHRA	HAMPSHIRE HEALTH RECORDS ANALYTICS
HT	HOSPITAL TRUST – GENERAL HOSPITAL WHERE ASNS IS BASED
IPA	INTERPRETIVE PHENOMENOLOGICAL ANLAYSIS
IQR	INTER-QUARTILE RANGE
LAPE	LOCAL ALCOHOL PROFILES FOR ENGLAND
LDQ	LEEDS DEPENDENCE QUESTIONNAIRE
LSOA	LOWER SUPER OUTPUT AREA
MINI	MINI-INTERNATIONAL NEUROPSHYCHIATRIC INTERVIEW
NDTMS	NATIONAL DRUG TREATMENT AND MONITORING SERVICE

NICE	NATIONAL INSTITUTE FOR CLINICAL EXCELLENCE
ONS	OFFICE OF NATIONAL STATISTICS
OQOL	OVERALL QUALITY OF LIFE
PAS	PATIENT ADMINISTRATION SYSTEM
PHE	PUBLIC HEALTH ENGLAND
PIS	PARTICIPANT INFORMATION SHEET
RCQ-TV	READINESS TO CHANGE QUESTIONAIRE- TREATMENT VERSION
RFT	RELATIONAL FRAME THEORY
SADQ	SUBSTANCE ABUSE DEPENDENCE QUESTIONNAIRE
SC-HBREC	SOUTH CENTRAL HAMPSHIRE B RESEARCH ETHICS COMMITTEE
SMS	TEXT MESSAGE
SOCRATES	THE STAGES OF CHANGE READINESS AND TREATMENT EAGERNESS SCALE
STAR	SUPPORTING TOGETHER ALCOHOL RESEARCH
STAI	STATE-TRAIT ANXIETY INVENTORY
STreAM	SPECIALIST TREATMENT FOR ALCOHOL MODEL
TMC	TRANS-THEORETICAL MODEL OF CHNAGE
Treat-TV	TREATMENT READINESS TOOOL – TREATMENT VERSION
UKATT	UK ALCOHOL TREATEMNT TRIAL
UNITS	WEEKLY UNITS OF ALCOHOL CONSUMED
UoS	UNIVERSITY OF SOUTHAMPTON
VQ	VALUING QUESTIONNAIRE
WARC	WESSEX ALCOHOL RESEARCH COLLABORATIVE
WHO	WORLD HEALTH ORGANISATION

Chapter 1: Introduction and Background

1.1 Introduction

Alcohol dependence is a severe form of alcohol disorder that occurs when the desire to use alcohol overpowers the individual (Advisory Council on the Misuse of Drugs 2013). It has serious health and social consequences impacting both the individual and society, and places significant demands on services. Recovery from alcohol dependence can be described as a long-term personal process of change across a range of life domains (White and Kurtz 2005). Within the last two decades there has been a shift towards incorporating the recovery model within statutory services delivered for people with alcohol dependence, but there is little consensus about how services can initiate and support recovery, or how to determine the effectiveness of recovery-oriented services. An assumption of this thesis is that a more detailed understanding of the recovery process can contribute to implementing recovery-oriented services and evaluating their effectiveness.

In the UK, services designed to support recovery from alcohol and drug dependence are centred around a community model, and it is recognised that there is a wide gap between the number of people eligible for treatment and the number accessing treatment via community services (Alcohol Concern 2018). Hospitals have been identified as providing an opportunity to engage more people in treatment due to the frequency with which people with alcohol dependence come into contact with hospital services (Public Health England [PHE] 2014b) . Screening for alcohol problems in order to identify those at most risk of harm, as well as Alcohol Specialist Nurse Services (ASNS), are becoming more common in general hospitals, with detoxification and brief interventions commonly provided by these services.

Due to the nature of acute medical interventions, hospitals generally take a short-term view, addressing the immediate medical crisis and then referring people with alcohol dependence on to community services. However, one service has recognised a potential for extended recovery-oriented interventions in the hospital setting. In 2010 a programme of recovery-oriented interventions was initiated by an ASNS in a UK general hospital, aiming to meet the needs identified by alcohol dependent patients. A review of the service suggested that the services implemented were highly valued by patients (Ward 2012). However, the service was available only to patients living in the city part of the hospital catchment area; those living in the surrounding towns and rural areas were referred on to community services. This service

development took place within the context of a strong and growing local recovery movement in the city area, and was part of the local strategy that informed service commissioning.

The STAR (Supporting Together Alcohol Research) Group was formed in 2013 with members recruited from patients of the ASNS. Prior to undertaking this study, this group identified that the NHS must find an answer to help their effective recovery from alcohol dependency, delivering sustained results over time. The proposed aim of this study takes into account the STAR Group's view, and it was intended to involve the STAR group in the design and dissemination of the study findings.

This study focuses on people with moderate to severe alcohol dependence, who are considered less likely to recover on their own or following a brief intervention (National Institute for Health and Care Excellence 2011). People who have undergone a detoxification have a physical dependency on alcohol, and usually this occurs alongside psychological dependency; these individuals are likely to meet the criteria to be eligible for specialist structured treatment interventions (NICE 2011). The aim of this study is to contribute to understanding the process of recovery from alcohol dependence after alcohol detoxification in a general hospital, and to identify factors that can support and hinder recovery. A further aim is to compare the hospital based recovery service pathway with referral on to community services; the two existing service pathways provided an opportunity for a natural experiment.

As the researcher I have a background in delivering addiction psychosocial interventions from a number of perspectives (cognitive, motivational, behavioural and contextual), and have an interest in understanding common processes underlying different types of intervention; I have studied contextual behavioural science (CBS) and set out with the view that basic principles from this approach could bring insights in this area. However, I also value patient perspectives and the patients account was prioritised before theory; hence while conducting the research I aimed to open myself to the perspective of the participants and the concepts they used. It was only once participant accounts were analysed in their own terms that I applied CBS theory to their accounts.

This introductory chapter provides an overview of background literature relevant to the aim of the study. The nature of substance addiction, recovery and the process of change will be discussed first; following this, the focus of the literature presented narrows to alcohol dependence and its associated harms, treatment and recovery from alcohol dependence, and a description of how alcohol specialist services are implemented and monitored in the UK. At the end of the chapter, the research questions will be described and an overview of the remaining thesis chapters will be provided.

1.2 Addiction, recovery and the process of change

1.2.1 The nature of addiction

The concept of 'addiction' is evolving within a historical and cultural context and is continuously under debate (White 2005). Addiction can be used as a broad term to include problems such as gambling and internet addiction, but the focus here will be on the nature of addiction to substances including alcohol. Central to the concept of addiction is the experience of loss of control over substance use, and the experience of harmful consequences of substance use (World Health Organisation 2010). A key aspect of the addiction debate relates to issues of control over behaviour: is addiction a choice or compulsion(Lewis 2015)? How this question is answered influences societal attitudes towards addiction, resource allocation, the direction of research, and service provision.

Around the start of the twentieth century a dramatic rise in alcohol consumption led to a shift from the view that excessive drinking was a moral issue towards the disease model of addiction (White 2005); the disease model is influential in addiction research and treatment to this day. According to the disease model, the experience described by people with an addiction of having lost control is seen as based in physiology. Neuroscience has identified that parts of the brain responsible for rewards and goal-directed behaviour are affected by the consumption of alcohol and other drugs; genetic and other predisposing factors have been identified, and pharmacological interventions have been developed. The disease model has greatly contributed to the de-stigmatisation of addiction and the willingness of society to treat it. However, it has also been criticised because it implies a powerlessness over addiction, which is contradicted by accounts of recovery based on the effort of the individual to change. Lewis (2015) argues for an interpretation of scientific data in a way that closely relates to the experiences of those with an addiction; brain changes can be interpreted as a consequence of learning rather than a disease.

Experimentally established principles of behaviourism highlight that some aspects of learning are under the control of largely unconscious processes of conditioning. 'Operant conditioning' (Skinner 1963) is the process by which the frequency of a behaviour can be influenced by consequences; 'reinforcement' occurs when a behaviour increases because of a positive consequence (such as praise); and 'punishment' is when a behaviour decreases because of a negative consequence (such as a speeding fine). In some respects there has been convergence between behavioural principles and the disease model as applied to addiction: there is support for the impact of addiction on reward centres in the brain, and for the notion that drugs become highly salient reinforcers of behaviour at the expense of other reinforcers in daily life (Miller and

Carroll 2006). Another type of conditioning that has been seen as relevant to addiction is 'respondent conditioning' (Pavlov 1927), which has been used to account for the observation that exposure to certain environmental cues can trigger substance use. For example, a place or object associated with past substance use can trigger behaviour towards seeking out and using the substance. Nevertheless, in spite of these advances a review by Bickel and Pontenza (2006) indicates that addiction is still not well understood; these authors suggest that addiction is a complex self-organising disorder that emerges from the interaction of old evolutionary behavioural processes and their associated brain regions.

Other behavioural principles have been given less weight in the addictions literature; for example, the role of 'negative reinforcement' has been seen as secondary (Robinson and Berridge 1993). Negative reinforcement occurs when a behaviour increases after a negative experience (for example, stress) is removed; a common example in addiction is when drinking provides relief from withdrawal symptoms, thereby reinforcing drinking. Baker et al. (2004) suggests that the role of negative reinforcement has been undervalued, and points to studies showing that people who are addicted often rate coping with negative emotions as their primary reason for drug use. More recent researchers have revisited the role of negative reinforcement; for example, Koob (2013) proposes a neurological basis for addiction based on negative reinforcement. Levin and Hayes (2012) applied advances in contextual behavioural science (CBS), and suggested that addiction could be predominantly driven by negative reinforcement; Relational Frame Theory (RFT) extends behavioural principles to account for language development and the influence of thinking processes on human behaviour. RFT suggests that 'experiential avoidance', driven by negative reinforcement and socially defined language conventions, underlies much human psychopathology including addiction.

The term addiction applies when a person has significant difficulty controlling the use of a substance in spite of increasing negative consequences. Unconscious behavioural and brain processes are central to addiction, and our understanding of these processes and how they interact in addiction is not yet complete. It is considered that theories of addiction should complement rather than oppose personal accounts of addiction, and further research into the role of negative reinforcement is considered to have potential for this reason. The term 'alcohol dependence' will be used to refer to addiction when alcohol is the primary substance of use.

1.2.2 **Recovery**

There has been a significant shift in paradigms in the field of addiction in the last two decades. By studying those who have self-identified as being in stable recovery, 'recovery' has been

conceptualised as more than a reduction in alcohol use, involving improvements in global health factors such as “physical, emotional, ontological (spirituality, life meaning), relational and occupational health” (White and Kurtz 2005, p.9). There is no widely accepted definition of recovery, although there is general agreement that it is a long-term process requiring sustained efforts (White and Kurtz 2005). Definitions of recovery tend to focus on characteristics of those who have made progress in recovery, rather than an understanding of how those changes came about (Betty Ford Institute Consensus 2007; The UK drug policy commission 2012). Other researchers point to recovery as a process involving growth and change, or as post-traumatic growth (Haroosh and Freedman 2017). Kougiali et al. (2017) highlighted that recovery involves learning that often takes place across several years spanning periods of abstinence (typically of several months in duration), short periods of controlled drinking, and periods of relapse (also typically lasting several months).

‘Pathways of recovery’ from dependence on a substance refers to different routes to recovery initiation, such as ‘treatment-assisted recovery’, ‘solo recovery’ (also known as ‘self-recovery’) and ‘peer-assisted recovery’ (White & Kurtz 2005). In practice, particularly for those with more severe problems, a combination of these routes to recovery may be more common. Dawson et al. (2005) investigated the prevalence of recovery using a cross-sectional survey of US adults reporting a history of alcohol dependence (N=4422). They found a substantial level of change in the cohort, with 18.2% abstainers and 17.7% low-risk drinkers, with only 25% continuing to meet the criteria for alcohol dependence. Only a quarter of the sample ever accessed treatment, suggesting that solo or peer routes to recovery were common. These findings suggest that improvements in drinking are common over time, but do not consider the wider life-style changes associated with long-term recovery; the cross-sectional design also meant that those who may have died were not taken into account.

Another area of recovery research has focused on identifying broader changes than traditional controlled studies into addiction, which tend to focus on substance use as the outcomes; the concept of ‘recovery capital’ has emerged which aims to measure the resources a person has available to initiate and maintain recovery (Granfield and Cloud 1999). In this model internal resources are considered to include health, finances, accommodation, self-awareness and coping skills, while external resources include treatment services, peer role models, recovery groups and cultural support for recovery. This is an emerging field, and there is no current consensus on the best measure of recovery.

1.2.3 **The process of change**

There are a number of key psychological processes which have relevance for recovery. Carl Rogers (1959) developed an approach to counselling that saw 'accurate empathy', 'positive regard' and 'genuineness' as the critical conditions to prepare the way for a client to initiate change; the qualities of the therapist have also been found to be a good predictor of outcome in the addiction literature (Ritter et al. 2002). Basic principles developed by early behaviourists, such as respondent conditioning and operant conditioning (Skinner 1963), underpin many of the evidence-based interventions in the addictions field today (Miller and Carroll 2006). Burman (2003) identified common cognitive strategies used by those in recovery: evaluation, decision making, role modelling, cognitive restructuring, self-control, and new ways of thinking. Recent developments in "the third wave" of cognitive behavioural therapy have highlighted processes such as 'mindfulness', and have argued that awareness of thinking processes may be an important process underlying a number of interventions (Levin & Hayes 2012).

Since the 1980s researchers in the addictions field have sought to understand a broader process of change that can occur both within and outside treatment. Prochaska and DiClememente (1982) developed a model of change, which proposed stages of motivation that an individual passes through in order to change behaviour: pre-contemplation, contemplation, determination, action, maintenance and relapse. This trans-theoretical model of change (TMC) has generated much research in the addictions field and has been widely adopted in treatment settings. 'Motivational interviewing', an intervention and style of therapy that aims to facilitate movement from contemplation to readiness to change, has a substantial evidence base (Miller 2006). The TMC has been criticised by researchers who question how well the stages fit the actual process; they also highlight limitations such as the focus on rational decision making, neglecting more unconscious processes (West 2005). Some researchers have suggested that a better model of change is needed (Sutton 2005; West 2005).

The recovery literature of recent decades has directed research towards understanding a longer-term process of change by studying those considered to have changed without assistance, or those who used peer groups. Klingemann et al. (2010) reviewed research on 'self-changers' and found that a good deal of research has highlighted cognitive decisional processes as a central characteristic of the change process; they suggested that strategies for interrupting patterns of behaviour and social systems of support were also important factors. Many people who attempt to self-change do not succeed (Klingemann 2010), which may indicate that for some people unsuccessful self-change is part of a natural progression from self-help to help seeking. Moos (2008) reviewed the extensive literature as to how twelve-step self-help groups (based on

Alcoholics Anonymous) are effective, and identified probable active processes: “bonding, goal direction and structure, abstinence oriented models and norms, involvement in rewarding activities other than substance use, and building self-efficacy and coping skills” (p.406). There is also a body of research seeking to understand the spiritual aspects of change within twelve-step programmes (Galanter and Kaskutas 2008).

Other researchers have considered a process of social identity transformation as central to the process of peer-assisted recovery from addiction; recovery is conceptualised to occur through identifying with a group and through processes of social learning and influence (Best et al. 2016). In this model the norms and values of the group are adopted and an ‘in-recovery sense of self’ emerges, which is considered central to sustaining recovery. A recent study of people using an abstinence-based online support group for problematic drinking supported the role of identity in recovery; group members identified with other members’ experiences and common goals, and were able to make changes to their drinking by identifying as ‘non-drinkers’ (Chambers et al. 2017). Other researchers question the central role of identity, suggesting that ‘recovering addict’ is not a coherent psychological identity, and challenge the focus on a singular identity of ‘addict in recovery’ as the agent of change (Fomiatti et al. 2017).

While there is a growing body of knowledge focused on understanding the process of change in recovery from addiction, there is still no consensus about what type of process recovery is (Witbrodt et al. 2015). Orford (2008) suggested that clients have useful insights into their own process of change, and that this source of knowledge has been neglected; a more complete understanding of the process of change from the persons’ own perspective could provide a basis from which to build and test theories.

A further obstacle to reaching a consensus might stem from a tension between mechanism and contextualism that is not always explicit in the literature. Mechanistic models of change focus on identifying parts of an overall process within the person that need to be changed, for example brain chemicals and cravings (disease model) or beliefs and feelings (cognitive model). However, contextualism puts a greater emphasis on the impact of external factors and how society can contribute to problems and influence change. In order to understand the process of change more completely it might be important to bridge this gap. One development in psychology with the potential to marry contextual and intra-personal aspects of change is contextual behavioural science (CBS), which seeks to understand behaviour within an evolutionary, developmental and social context. Through Relational Frame Theory CBS extends a behavioural analysis to internal experiences such as thinking.

1.3 Alcohol dependence and impact

1.3.1 **Alcohol dependence**

Alcohol dependence, also known as alcoholism or alcohol addiction, is the most severe form of alcohol disorder and occurs when the desire to use alcohol overpowers the individual (Advisory Council on the Misuse of Drugs 2013). Drinking becomes a priority even when it is harmful and other important areas of life are neglected. The Alcohol Use Disorders Identification Test was designed as a screening tool to identify alcohol use disorders in non-specialist settings, and is considered reliable for this purpose across gender, age and culture (Babor et al. 2001). An AUDIT score of 16 or more suggests harmful levels of drinking, a score of more than 20 indicates likely dependence, and those at the greatest risk of physical and mental health consequences are said to have an alcohol dependence.

Dependence is assessed by clinical diagnosis (NICE 2011), often alongside the use of a validated tool such as the Severity of Alcohol Dependence Questionnaire (SADQ, Stockwell et al. 1983) or the Leeds Dependence Questionnaire (LDQ, Raistrick et al. 1994). For example, the SADQ asks patients about the amount they drink as well as how frequently they wake up after heavy drinking with sweating, shaking, feelings of fear and cravings for alcohol. These measures are used to identify mild, moderate and severe alcohol dependence, which are seen as existing in a continuum of severity (NICE 2011). Both moderately and severely dependent drinkers can experience physical withdrawal symptoms when they stop drinking, which indicates the need for medically assisted detoxification (NICE 2011).

Pryce et al. (2017) used local population structures and the Adult Psychiatric Morbidity Survey (APMS, National Centre for Social Research 2016), which includes the SADQ and the AUDIT to estimate alcohol dependence prevalence. These figures could underestimate the problem, as people may be reluctant to admit to having a problem, and those with the most serious problems are possibly less likely to complete the survey. Nationally 1.4% of the adult population (595,131 people in England) were estimated to be alcohol dependent (mild 0.77%, moderate 0.41%, severe 0.25%), and this estimate was stable from year to year during the period from 2010 to 2015. Higher scores on the SADQ were associated with being male, of a younger age, of white ethnicity and living in an area of greater deprivation (Pryce et al. 2017). APMS data was combined with local population structures and hospital admission rates data in order to estimate the prevalence of alcohol dependence in each Upper Tier Local Authority in England; the rates in the highest Local Authority areas were estimated to be six times higher than those in the lowest (Pryce et al. 2017).

In order to inform the scale of commissioning of services for alcohol dependence it is important to have an estimate of how many people are amenable to treatment. Until recently it was generally accepted by researchers and commissioners that services should be provided for around 15% of the alcohol dependent population, though estimates in the literature vary between 5% and 20% (Rush 1990). More recently, Pryce et al (2017) estimated that 57% of adults who had an AUDIT score greater than 16 had a desire to cut down drinking, and 41% intended to do so. Those with an AUDIT score over 20 and those aged over 35 were even more likely to express an intention to change. This suggests the previous estimate of 15% being amenable to treatment could be an underestimate, although it is not clear how many of those who intended to change would need help to do so.

Approximately 350,000 people in England are considered moderately to severely alcohol dependent and likely to need medical detoxification to stop drinking (Pryce et al. 2017). This group of people are at high risk of acute and chronic alcohol-related health conditions and are likely to use general hospital services. The above estimates suggest that more than half of this group could potentially be receptive to help to address their drinking problem following detoxification. A significant number of these patients may also have a need for help with a mental health condition, as will be discussed below.

1.3.2 **The impact of alcohol on health**

According to the World Health Organization ([WHO] 2014) alcohol is implicated as a risk factor in over sixty health disorders. Increased volume and frequency of drinking has a clear negative impact on health (PHE 2016). Alcohol consumption is a contributing cause in more than two hundred International Classification of Disease codes (ICD-10 2010). These include acute conditions such as alcohol poisoning or injury, and chronic conditions such as liver cirrhosis, cardiovascular disease and breast cancer. The degree to which disorders are caused by alcohol varies, and has been quantified as an alcohol-attributable fraction (AAF); for example, alcoholic liver disease is wholly attributable to alcohol. Using this measure the WHO has estimated that alcohol accounts for 5.9% of all global deaths (WHO 2014).

An approach used to understand the impact of alcohol on health in England is analysing hospital admissions, which are calculated using AAFs and hospital episode data. There are broad and narrow measures: the broad measure includes all alcohol-related diseases, injuries or conditions as primary or secondary diagnosis, while the narrow measure relates to the primary admission diagnosis or events with an external alcohol related cause (Health and Social Care Information Centre 2016). While the narrow measure is less sensitive to changes in recording practices, the

broad measure is thought to more accurately reflect the total burden of alcohol on health and health services. Alcohol-related admissions have been increasing since 2003, rising to over one million in 2015 using the broad measure and 333,000 using the narrow measure (PHE 2016). Almost half of these admissions occur within the three lowest socioeconomic deciles, suggesting a strong link between social deprivation and the impact of alcohol on health (PHE 2016).

Based on a review of epidemiological studies in high-income countries, approximately 30-40% of the alcohol dependent population was also found to have a diagnosable mental health disorder, the most common being depression, anxiety and personality disorders (Jané-Llopis and Matytsina 2006). An association between psychiatric disorders and alcohol disorders has been demonstrated (WHO 2014), although the causal relationship is considered to be bi-directional (Rehm et al. 2010). For this reason, partially attributable mental health conditions are not currently included in AAF calculations. A number of studies have demonstrated that alcohol dependent patients performed significantly worse than controls in prefrontal functions such as decision making, and this was also evident in decreased grey matter volumes (Chanraud et al. 2007).There is also a number of studies which have implicated the number of detoxifications (including self-detoxification) as well as the duration of an individual's alcohol problem in worsening cognitive impairment (Loeber et al. 2009).

In 2014 there were approximately 6,000 deaths with a cause wholly attributed to alcohol (AAF=100), accounted for by conditions such as alcoholic liver disease and alcohol poisoning (PHE 2016). The average age at death for this group was 54.3 years, which compares to the average for all causes of death of 77.6 years. Liver disease accounted for 86% of deaths wholly attributed to alcohol in the UK (Health and Social Care Information Centre 2016), and deaths due to liver disease have increased by 400% since 1970 (Williams et al. 2014). Partially attributable deaths were also calculated using AAFs combined with Office of National Statistics (ONS) mortality data, and were estimated to be 23,000, with males more than twice as likely as females to die due to alcohol-related conditions (PHE 2016). There is evidence to suggest a relationship between the quantity of alcohol consumed and the risk of liver disease and death (PHE 2016). Obesity can also amplify the damage done to the liver by drinking, such that if someone has a body mass index over 35, the risk of developing liver disease increases by 100% (PHE 2016).

1.4 Treatment for alcohol dependence and implementation

1.4.1 Treatment research

There is an extensive literature examining the effectiveness of a wide range of medical and psychosocial interventions for alcohol dependence. From a recovery perspective these treatments can be seen as most relevant to recovery initiation, as they are often short-term. Psychosocial treatments are often influenced by Carl Roger's work on the therapeutic relationship, Skinnerian and Pavlovian behavioural principles, and Beck and Ellis's cognitive interventions. Twelve-step interventions have also been influential in the field, including aspects such as spiritual development that are not common parts of mainstream psychology. Pharmacological treatments have also been developed and the disease model has influenced pathways to help, which typically follow the structure of assessment, diagnosis, treatment and aftercare; it has also influenced the separation of treatment for alcohol dependence from mental health interventions through the diagnostic system. Another influence of the medical approach has been a preference for controlled trials above other types of research, which are commonly applied to both medical and psychosocial interventions.

Miller and Wilbourne (2001) reviewed 361 controlled trials assessing outcomes for at least one intervention for alcohol problems (including but not limited to dependence). They ranked forty-six different categories of interventions based on the amount of evidence to support a positive outcome (not considering effect size) for treatment-seeking and non-treatment-seeking populations. Of those that scored positively, the top seventeen for treatment seekers, in ranked order, were: brief interventions, which included advice-giving; social skills training; gamma-aminobutyric acid agonists; opiate agonists; community reinforcement; behavioural contracting; behavioural marital therapy; case management; cognitive therapy; disulfirum; motivational enhancement; self-help; client-centred counselling; aversion therapy; covert sensitisation; and acupuncture. Some interventions were low ranking with negative cumulative evidence scores, for example confrontation and educational approaches. Brief interventions and interventions based on behavioural principles have been consistently found to be effective in the literature (Miller and Carroll 2006), although brief interventions may have less impact for those with more severe problems.

Project MATCH (Project MATCH research group 1998) compared three community-based interventions for 806 participants with a diagnosis of alcohol dependence or alcohol abuse, followed up at three years and assessed for drinking outcomes (N=952). The interventions were motivational enhancement therapy, cognitive behavioural therapy, and twelve-step facilitation.

Of the participants, 30% were abstinent at three years and others had significantly reduced drinking, but there was very little difference between the effects of the three different psychosocial interventions. The UK Alcohol Treatment Trial (UKATT Research Team 2005) recruited 742 clients with a range of alcohol problems who were receiving outpatient treatment from seven UK sites. The researchers compared motivation enhancement therapy (MET) with social behaviour network therapy (SBNT), which promotes the role of family and friends in the process of recovery. Follow-up was successful, involving 93% of the participants after three months and 83% after one year. Both treatment groups had considerably reduced drinking and drinking-related problems, as well as improving their mental health and quality of life; the effects of the different interventions did not differ significantly.

A further large-scale alcohol study (Combine study research group 2006) compared combinations of a behavioural intervention or medical counselling with different medications (including Acamprosate and Naltrexone) or a placebo for alcohol dependence. These medications aim to reduce the craving for alcohol by directly changing neural pathways, for example by increasing the sensitivity of certain receptors in the brain linked to addiction. The hypothesis of the study, that there would be a beneficial effect of combining medication and a behavioural intervention, was not supported. Similar to Project MATCH and the UKATT, there were positive changes in all groups, but very little difference between groups.

The results of the COMBINE, MATCH and UKATT studies taken together have led a number of prominent researchers to conclude that alcohol research needs to shift its focus away from random controlled trials (RCTs) towards research that provides a greater understanding of mechanisms of change (Bergmark 2008). As discussed earlier, there may be common processes of change across different interventions that have not been identified (Orford et al. 2006). If insight can be gained into the underlying processes of change in recovery, it may be possible to enhance recovery rates.

1.4.2 **Outcomes after detoxification**

It is important to put the results of RCTs into the context of wider issues of treatment engagement. RCTs assume engagement in treatment following a detoxification if this is required. Another body of work has suggested that the transition from detoxification to engaging in help cannot be assumed; a review by Timko et al. (2015) identified nine studies between 1975 and 2014 which examined patient and programme characteristics that increase engagement in treatment or peer support following alcohol detoxification. Transition rates varied from 13.7% to 79%, and patient characteristics influencing engagement were being white, having higher

education, and having a prior history of detox or treatment. Programme factors influencing engagement included incentives, escorts to attend new services or peer groups, a brief family intervention during detoxification, mutual help components to detoxification programmes, counselling that started during detoxification and continued after discharge, and brief motivational interventions. They concluded that for those completing detoxification it was "critical to address barriers to accessing the next phase of care" (Timko et al. 2015, p. 36). This is significant for ASNS, who offer detoxification in a general hospital; the extended intervention offered by the ASNS that is the focus of this study aims to facilitate this transition.

A literature search for post detoxification outcomes identified a number of studies examining potential risk and protective factors for those who have undergone a detoxification under a specialist alcohol service. The search strategy and studies are summarised in Appendix A, giving the results for the range of factors investigated. Relapse rates tended to increase steadily over time; by month two all the relapse rates were more than 40%, including studies where less strict definitions of relapse were applied. These results suggest that detoxification alone is not adequate to sustain abstinence, or controlled drinking, for the majority of patients. The studies identified consider relapse as an outcome, but do not account for those who might recover from the relapse or series of relapses and go on to maintain abstinence in the longer term.

One longer-term study suggests that greater improvements may occur over a four-year period. Ponzer et al. (2002) gained consent from 52 males admitted for alcohol detoxification in Stockholm in 1991–2 and analysed routine data four years post admission. Four had died and 62% had been readmitted for detoxification during the four-year follow-up with the following pattern: during the first year there were twenty-five readmissions, in the second year thirty readmissions, in the third year twelve readmissions, and in the fourth year there were three readmissions. This pattern of declining admissions could suggest that progress in recovery was being reflected in reduced admissions over several years. However, there could be alternative explanations, and this was a small study and therefore it was difficult to draw conclusions; further research could explore these patterns on a larger sample.

The most common demographic risk factors for relapse identified across the studies were being single and living alone (Walter et al. 2006a; Müller et al. 2008; Schellekens et al. 2015). The other key factors identified related to readiness to change and mental health, as described below. There were mixed results in the literature regarding the impact of severity of alcohol dependence, physical withdrawal, or number of previous detoxification or emergency department episodes on outcome (see Appendix A).

Freyer-Adam et al. (2009) recruited 549 participants in a detoxification unit as soon after admission as possible, and followed them up at twelve months (76.1% follow-up). They used the treatment version of the Readiness for Change Questionnaire (RCQ-TV) and reported that those considered to be in the 'action' stage of change were more likely than 'pre-contemplators' and 'contemplators' (taken together) to be abstinent at twelve months, but not more likely to utilise treatment. Those who were in the action phase of seeking treatment as measured by the Treatment Readiness Tool (TReaT[TV]) were more likely to seek help but not any more likely to be abstinent. The evidence presented here suggests that the patient's stage of change may be an important factor in predicting recovery following detoxification, and it is important to make a distinction between change readiness and treatment readiness.

Several of the cohort studies explored factors related to mental health as potential indicators of vulnerability to relapse. Petit et al. (2017) recruited 256 participants (175 male, 81 female) to a cohort study from two inpatient detoxification sites in Belgium. Assessment occurred on the first and eighteenth day of abstinence and included the Obsessive Compulsive Drinking Scale, Beck's Depression Inventory (BDI) and the State items from the State Trait Anxiety Inventory (STAI). Severe depression was more common for women on admission (60% compared to 35% males) and persisted at eighteen days for a significant number of the women (23%), while only a small group of men continued to be severely depressed (2%). Similarly, a high level of anxiety was more common for women than men on admission (22% vs. 11%) and by three weeks only half of these women continued to have high levels of anxiety (11%). Cravings, obsessions and compulsions for alcohol reduced over this three-week period, and cravings were associated with negative affect. This suggests that women may have more anxiety, depression and related craving than men at three weeks after detoxification. Driessen et al. (2001) recruited a cohort of one hundred participants at three weeks after starting detoxification; those with persisting anxiety were close to 50% more likely to have relapsed at six months ($p<0.02$). Schellekens et al. (2015) recruited a cohort of 189 participants one month after they had stopped drinking. Those with comorbid anxiety were prone to relapse during the first three months; in particular, agoraphobia accounted for much of the association. Panic disorder and social phobia were also more common in the relapse group, but this was not statistically significant (PTSD was not evaluated).

1.4.3 Treatment for alcohol dependence in the UK

In the UK the commissioning of alcohol treatment services is based around a community model. NICE (2011) recommends that patients with alcohol dependence should have a comprehensive assessment from a specialist community alcohol service. If detoxification is required for them to stop drinking this can be provided in the community, or a referral to an inpatient detoxification

unit can be made if complications are present, such as homelessness or a history of seizures. Following detoxification, it is recommended that an intensive community-based programme should be offered, the intensity depending on the severity of the dependence, comorbidities and available social support (NICE 2011). It is recommended that the programme should include medication to help reduce the craving for alcohol (such as Acamprosate), in combination with psychological interventions (including individual, group and access to peer group interventions). When someone has little social support, significant co-morbidities or does not respond to the initial interventions offered, alcohol focused individual therapies (cognitive behavioural therapies, behavioural therapies or social network and environment-based therapies) are recommended (NICE 2011). It is also stated that clients with comorbid anxiety and depression should be assessed three to four weeks post detoxification as there may be significant improvement after a period of abstinence. If symptoms persist, the person can then be referred for the appropriate medical or psychological treatment for their mental health issue (NICE 2011).

Public Health England (PHE) collects information about all episodes of publicly funded structured alcohol treatment using the National Drug Treatment Monitoring System (NDTMS). Structured alcohol treatment is a comprehensive package of alcohol treatment which addresses the more complex or severe problems that would not be expected to respond to non-specialist interventions (PHE 2014a). The NDTMS data includes some non-dependent drinkers with complex needs, as well as those with mild, moderate and severe dependency. In 2015–16 there were 85,035 people who had primary problems with alcohol who came into contact with specialist community alcohol services in England; 26,111 of these were starting treatment for the first time (PHE 2016b). The majority were treated in the community, with 5% referred to inpatient centres and 3% to residential treatment.

NDTMS data suggests that treatment services successfully engage and help many of those with alcohol problems to stop or reduce their drinking, at least in the short term. Of those presenting with primary alcohol problems, 90% were retained in treatment at twelve weeks, and the average length of treatment was just over six months. Almost two thirds (62%) were recorded as eventually successfully completing treatment, based on a clinical judgement that the client no longer needed services and was no longer dependent on alcohol (PHE 2016b). These data suggest that community services are somewhat effective in helping the group of people with alcohol problems who present to these services to stop or reduce their drinking over the short term. The data reported do not give an indication of long-term recovery or progress in other areas of life.

A recent report carried out by the charity Alcohol Concern (2018) estimates that only 20% of those in need are accessing alcohol treatment in England, and that this represents a 12%

reduction in the last three years. Their survey of stakeholders, including service users, found many alcohol services to be at breaking point and unable to provide a meaningful service in the context of increasing cuts to funding. The consequences of these cuts include: fewer staff who are more stretched; decreased capacity; delays to treatment start, which often undermine the engagement of those with more severe problems; an increasing focus on groups and peer support rather than individual sessions with a trained professional, driven by funding issues rather than patient need; and unrealistic pressure for service users to attend fixed appointments. They also pointed out that there was no improvement in the long-recognised issue that there is poor coordination of services for those with co-existing mental health problems, and these people's needs often fall through this gap.

As well as addressing the breakdown in community alcohol services, the Alcohol Concern report (2018) highlights the need for commissioners to design and implement approaches that bridge the gap between identification and treatment, in particular for high need and high impact drinkers who are frequent users of health services. When people with moderate to severe alcohol dependence attend hospital due to a medical crisis or a chronic condition, this presents an opportunity to identify and engage more of them in treatment for alcohol dependence (PHE 2014b). Following detoxification the NICE guidelines recommend that patients should be offered information about how to contact specialist alcohol services. It is not known whether this advice about accessing treatment is followed or how effective this pathway is in engaging patients in treatment.

1.4.4 **Alcohol treatment in UK hospitals**

Westwood et al. (2017) demonstrated that it is viable to screen hospital admissions in order to identify those at higher risk of harm from alcohol, using an electronic version of the Paddington Alcohol Test (PAT). They were successful in screening 90% of patients admitted to a medical assessment unit, and found that 4% were categorised as at higher risk. This group had experienced the highest average number of hospital events over the prior three-year period (4.74 admissions and 7.68 ED attendances); 81% of this higher risk group scored over 20 in the AUDIT, and were therefore likely to be alcohol dependent. The most common admission diagnoses were mental health disorders, gastro-intestinal bleeding, poisoning and liver disease. Schoepf and Heun (2015) compared physical comorbidities contributing to earlier deaths for alcohol dependent patients in a general hospital (N=23,371) with a control group of regular hospital patients (N=233,710), and found that the most common disorders in deceased people with alcohol dependence were alcoholic liver disease, hypertension, chronic obstructive pulmonary disease and pneumonia. Mortality rates over two-and-a-half years were considerably higher in the alcohol

dependent group (20.4%; 8.3%) and alcohol dependent patients' multiple comorbidities were found to contribute to this.

Stewart and Connors (2007) carried out a cross-sectional survey of alcohol dependent patients in a general hospital using a validated measure of readiness to change (Stages of Change Readiness and Treatment Eagerness Scale or SOCRATES). They identified an association between a patient's perception of their health status and that person recognising they had an alcohol problem and wishing to change. They hypothesised that medical hospitalisation presents an opportunity to move patients towards change. There is a considerable body of evidence that suggests non-specialist brief interventions in a hospital setting can have a significant impact on outcomes for drinkers who are at risk of harm, but these interventions have less impact on those with alcohol dependence (Mdege et al. 2013).

Public Health England (2014b) surveyed district general hospitals with more than five hundred discharges per month, and found that at least 73% were providing some degree of specialist alcohol service. These services generally promote screening for patients in hospital departments, and provide assessment and brief interventions to those who drink at levels that are likely to harm their health. Those who are moderately or severely dependent can usually access detoxification provided by these teams. There is growing evidence for the effectiveness of hospital-based alcohol teams. A number of studies have shown a significant impact on the reduction of bed days when these services have been introduced (Ryder et al. 2010; Moriarty 2014; NICE 2014; PHE 2014b). Other studies have provided evidence for the effectiveness of services which target the most frequent users of hospital acute services, demonstrating the impact this can have on reducing readmissions (Ryder et al. 2010; Hughes et al. 2013).

In a prospective non-randomised controlled cohort study, Cobain et al. (2011) compared an intervention (up to twenty sessions) delivered by an ASNS for those assessed as alcohol dependent with treatment as usual in another hospital setting (N=100 in each cohort). For those patients in the treatment group who were followed up successfully (52%), alcohol dependence was reduced in 77% of cases, with 56% no longer scoring for dependence and 37% abstinent. This was significantly different from the outcomes for the control group (follow-up 50%) where alcohol dependence was reduced in only 20% of cases, and there were no reports of abstinence. There was also a trend towards fewer presentations to the Emergency Department in the intervention group, although this was not statistically significant for the sample studied.

A recent study was based on qualitative interviews with people who frequently attended emergency departments where alcohol is a contributory factor (Parkman et al. 2017b, a). Participants had found it difficult to access primary care services and expressed a dislike of

community specialist addiction services; only about a third of those interviewed wanted alcohol treatment, most were seeking broader psychosocial support, and EDs were seen as offering sympathetic care. These participants were not necessarily alcohol dependent; no qualitative studies have been identified which explore the experiences of people with alcohol dependence who use these services. Furthermore, there has been no research identified which focuses on the group of moderate to severe dependent drinkers who complete detoxification with these hospital services.

1.5 Conclusion and research questions

Hospitals are considered to provide an opportunity to engage more people with alcohol dependence in recovery. Screening in hospitals can identify those with likely dependence, many of whom will need detoxification while in hospital; the group who receive detoxification would generally be eligible for specialist alcohol treatment. There is limited knowledge about the group of patients who undergo alcohol detoxification in general hospitals in terms of their demographics, reasons for contact with the hospital, comorbidity and mortality, and it is not known how many of this group might be open to change and receptive to help. It is also unknown to what extent this group makes use of community based specialist alcohol treatment prior to contact with the hospital, and how far the usual practice of referral on to these services leads to successful engagement. A facilitated approach to engagement in services following detoxification might be beneficial, but no research studies have established if this is the case. While there are a number of pharmacological and psychosocial interventions that provide evidence for short-term reductions in drinking, it is unclear how many patients are offered and benefit from these interventions within current specialist alcohol service provision. It is also unclear what support this group might need in order to assist recovery in the longer term and across a variety of life domains.

The ASNS whose patients are the focus of this study has responded to needs identified by patients to develop a 'recovery pathway' from detoxification into support services. Some of their patients are terminally ill and are offered support in facing their illness and death, including help to manage their alcohol use in this context. Patients with potential for physical recovery and who wish to change their drinking are introduced to the concept of recovery. The nurses have adopted the recovery model and use the language of recovery in their interactions with patients. They encourage patients to engage with specialist alcohol recovery services and other services designed to meet the specific identified needs of individuals. The city-based patients are invited back after detoxification for weekly outpatient appointments, which are gradually tapered off according to need; patients can be seen for up to a year. One role of the ASNS is to monitor the

health of the patients and offer health interventions, for example nutritional supplements. The nurses also give feedback to patients about ongoing blood test results which may show progress, such as improved liver function if the person maintains abstinence. During these appointments the nurses support practical steps towards behaviour change and monitor engagement in recovery-relevant services.

The ASNS provides an opportunity to find out more about the patient group using detoxification in a general hospital. The existence of the two recovery pathways following detoxification means that a natural experiment to compare the pathways was feasible. While services in both pathways had adopted a recovery model, there was limited consensus regarding the nature of the recovery process and what recovery support entails. It was considered that without an understanding of the process of change in early recovery, it could be difficult to compare interventions aimed at initiating and supporting recovery. Thus, a mixed methods study was proposed, aiming to find out more about the patient group in terms of demographics, comorbidities, mortality and service use, and to answer the following research questions:

- What is the process of change in early recovery for this patient group?
- What treatment and non-treatment factors are seen as initiating, supporting and creating barriers to recovery?
- Is there a difference between the recovery outcomes for alcohol dependent patients following these two pathways?

It was anticipated that this study would contribute to a theoretical understanding of the process of change, obstacles to change and factors that support change for this patient group. The study also aimed to produce knowledge useful to commissioners, service providers, clinicians and community groups in order to inform the planning and delivery of recovery interventions for this patient group.

It has been proposed that personal accounts of recovery are an underutilised source of insight into the process of change, and that they have the potential to form a foundation from which theory can be developed. The literature review that follows will review qualitative studies that draw on the person's own account of recovery from alcohol dependence in order to identify what is known from this perspective, and what gaps there are in the literature.

1.6 Overview of thesis chapters

Chapter 2 Literature Review: A literature review of qualitative studies that have emphasised participants' accounts of recovery from alcohol dependence, and are relevant to understanding the process of change in recovery. A systematic search of the literature identified twenty one

studies and these were summarised and thematically reviewed in order to highlight common aspects of change across the studies. A map of the process of change corresponding to participants' accounts is presented and gaps in the literature were identified.

Chapter 3 Methodology, design and methods: An overview of the philosophical position (Pragmatism), study design (Mixed Methods), qualitative and quantitative methods, and ethical considerations. This chapter describes the rationale for longitudinal qualitative semi-structured interviews with patients who have completed detoxification in a general hospital, and outlines the implementation from recruitment to analysis. The implementation of a statistical analysis of retrospective data from several sources is then described.

Chapter 4 Qualitative Findings: The process of change in early recovery from alcohol dependence is described from the perspective of twenty-four study participants who were interviewed at various points over the course of a year. The thematic analysis identified the changes people made and the purpose of changes. Quotes from participants are presented as evidence for the analysis and summary tables provide a useful reference.

Chapter 5 Discussion of qualitative findings: The qualitative findings are discussed in the light of the literature review, demonstrating where findings correspond with other research and where this study makes a unique contribution to the literature. Then the thematic analysis is considered in the light of behavioural principles and theoretical concepts from contextual behavioural science in order to explore latent themes from this perspective.

Chapter 6 Quantitative results: This chapter statistically describes the patient group who underwent detoxification with an Alcohol Specialist Nurse Service, and their pathways through services. The results of regression analyses is presented, identifying key predictors for the outcomes: survival; additional detoxifications; admissions and ED attendances. The results of comparing the two recovery pathways are presented.

Chapter 7 Quantitative discussion: The strengths and weakness of the quantitative analysis are discussed and the quantitative results are discussed in terms of the literature presented in Chapter 1. The characteristics of this patient group are compared to those in alcohol treatment services and the implications of the findings for this group are considered.

Chapter 8: Integration and Conclusions In this chapter the qualitative and quantitative findings are discussed together in order to offer a complementary perspective that enhances understanding of the research questions for this patient group. Implications for service providers, commissioners, and further research are highlighted, before concluding the thesis.

Chapter 2: Literature Review

2.1 Introduction

This literature review aims to identify and thematically synthesise the literature relevant to the following research question:

What is the process of change during recovery from alcohol dependence from the patient's perspective?

In Chapter 1 it was identified that the patient's perspective on recovery is a valuable source of knowledge. A review of the literature was carried out aiming to identify studies relevant to this question. The selected studies focused on three main routes to recovery: self-recovery, peer group recovery, and treatment initiated recovery. The studies used a range of approaches including Grounded Theory, Narrative, Interpretative Phenomenological Analysis (IPA), Thematic Analysis and Content Analysis. An overview of the individual study findings and the common themes identified across the studies will be presented and discussed.

2.2 Search strategy

The strategy for this qualitative literature review was based on the version of Thematic Synthesis developed by Thomas and Harden (2008). This approach was developed to combine qualitative study findings, in order to better understand health issues from the experiences and points of view of those targeted. In keeping with this approach, a purposive sample of the literature aimed for conceptual saturation in relation to the research question. A search was undertaken of five databases: PsycINFO, MEDLINE, CINAHL, Web of Science and EMBASE. These databases were searched individually using relevant search terms or keywords for 'alcoholism' AND 'recovery' AND 'change process' AND 'qualitative' (see Appendix B). This identified 231 studies, and all abstracts were screened.

During screening a purposive assessment was made of each abstract considering the degree to which the results represented the views of participants and the relevance to the research question. Most studies did not formally assess dependence, and studies were included if it was indicated that the participants, or the majority of the participants recruited, were experiencing a relatively severe alcohol problem; participants were self-identified alcoholics or identified as having serious chronic problems with alcohol, or had adopted abstinence, or were treatment seeking. A number of studies were excluded for the following reasons: the majority of participants

included in the study were not alcohol dependent (the study focused on harmful or binge drinking), or it was difficult to assess the severity of their alcohol problems; there was no significant qualitative component; the study was not in English; or it was not relevant to the research question. Studies were also excluded that focused on minority or non-Western groups, as exploring cross-cultural differences was beyond the scope of this review; non-western countries can have very different perspectives on alcohol use and dependence and the provision of treatment. The remaining twenty-eight studies were reviewed in full using the Critical Appraisal Skills Programme (2017) qualitative research criteria (CASP). This process led to a further seven studies being excluded due to primarily theory-driven analysis, which meant that the personal accounts of recovery were less visible (Hodgins et al. 1997; Paris and Bradley 2001; Hammond 2002; Sanders 2006; Orford et al. 2009; Dunlop and Tracy 2013b, a). One study was excluded because only one of the identified themes was included in the findings (Wright 1997); the paper represented only one aspect of the findings of a study conducted for a master's thesis, and to include the one theme would have given an unbalanced contribution. The remaining studies were appraised as sufficiently meeting the CASP criteria, although there was one common limitation: most of the studies not to include reflection on the researcher's role or make explicit the concepts and beliefs held by the researcher that may have influenced the findings.

All text labelled as findings or results from the studies were used for the analysis, and each line of text was coded for meaning and content using QSR International's NVivo 11 qualitative data analysis software. Descriptive themes were developed to highlight the commonalities across the studies (Thomas & Harden 2008). Thematic synthesis has some limitations in that the information coded is that presented in the findings sections of published papers and is therefore at a distance from the original data; furthermore, attempts to combine findings from different qualitative approaches to provide common themes may reduce the depth of the findings and lose the context. The findings of each study are summarised first, so that the identified themes across studies can be considered to provide additional insights alongside the narrative of the individual study findings.

2.3 Summary and critique of studies

Twenty-one studies were included, and a range of qualitative approaches were used across the studies (see Table 1 below). One researcher (Wing 1991; Wing 1995) used an ethnographic method of data collection during a four-week residential treatment programme, while all the other studies used semi-structured interviews. Seven studies focused on the early aspects of the process of change around a 'turning point' or 'treatment seeking', and five studies explored changes made during treatment. The remaining recovery studies tended to cover a longer period

of the recovery journey, from developing a problem, through turning points up to stable recovery. These recovery focused studies had a range of research aims: perceived changes; transitional processes; factors fostering recovery; experiences of recovery; recovery narratives; and the role of concepts of addiction in recovery.

Most of the studies distinguished between those with participants engaged in treatment, active Alcoholics Anonymous (AA) members, and self-changers. Those in treatment were in the first few months of recovery, while self-changers typically had at least two years of recovery time, and most AA members had over five years. Thus, some studies looked at events that were happening or had happened recently, while others asked participants to look back on events that had occurred many years ago. Two studies (Bowden 1998; Brewer 2006) did not differentiate between different types of recovery route; these studies are included in the thematic synthesis but not in the comparative descriptions of the studies.

Table 1. Overview of studies included in qualitative literature review

	Study	Methodology/ Analysis	Sample/ Gender	Time in Recovery	Recovery Route	Aim stated in study
Turning point and Treatment seeking						
1	DePue, M. et al2014	Phenomenology	3 M 3 F	>5 years	AA	To gain an understanding about the bottoming-out experience for alcoholics.
2	Dyson, J. 2007 UK	NarrativeGrounded Theory Content analysis	8	>1 years	AA	To provide insight into the experiences of the participants during their alcohol dependent period and recovery
3	Christensen, A. 2015 Finland	Narrative	16 F 26 M	>2 years	Self and AA media-recruited	Explores the multiplicity of former heavy drinkers' narratives, focusing on turning points
4	Jakobsson, A. et al. 2005 Sweden	Grounded Theory	5 F 7 M	<1 month in treatment	Treatment	Explores treatment-seeking processes in men and women with alcohol problems, focusing on promoting and hindering factors
5	Jakobsson, A. et al. 2008 Sweden	Content Analysis (thematic)	5 F 7 M	<1 month in treatment	Treatment population	To identify what promoted or hindered treatment-seeking in women and men
6	Orford J. et al. 2006a	Grounded Theory	98	Start of treatment	UKATT Treatment	To develop a model of why people seek professional treatment for drinking problems, grounded in clients' accounts
7	Roper et al. 2013	Thematic analysis	13 F 16 M	Seeking treatment	Treatment	Investigated the range of factors and influences leading to treatment-seeking.

	Study	Methodology	Sample/ Gender	Time in Recovery	Recovery Route	Aim stated in abstract
Recovery – recruited from treatment						
8	Wing, D. 1995 UK	Grounded Theory Ethnography	33	1–28 days	Treatment Inpatient	Investigated the internal processes that alcoholics experienced as they transcended denial
9	Gilburt, H. et al. 2015 UK	Thematic Analysis	11 M 9 F	Could be pre-detox	Community treatment service users	Explores how the alcohol treatment system is experienced by service users, identifying barriers and facilitators
10	Garland, E. 2012 UK	Grounded Theory (thematic)	14M 4 F	18 months	TC graduates attending MORE	To enhance understanding of mindfulness-related treatment effects
11	Orford J. et al. 2006b	Grounded Theory	211/397	1 year	UKATT Treatment	To develop a model of change during and following professional treatment for drinking problems, grounded in clients' accounts
12	Wing, D. 1991 Netherlands	Ethnography Grounded Theory	42	1–28 days	Treatment Inpatient	To develop a model of recovering alcoholics' goal progression
Recovery – recruited from AA						
13	Shinebourne, P. 2011 Germany	IPA	3 F	>15 years	AA	Experiences and understandings of people who have engaged with the process of recovery
14	Weegmann, M. 2009 UK	IPA	9	>9 years	AA	Understanding the factors that have helped them to achieve and sustain change
15	Gubi, P. 2013 UK	IPA	4 M 4 F	>5 years	AA	Uncovers the processes involved in transition from active dependency to long-term recovery

	Study	Methodology/ Analysis	Sample/ Gender	Time in Recovery	Recovery Route	Aim stated in study
Self Recovery only or compared to AA/Treatment groups						
16	Burman, S. 1997 US	Thematic Analysis Grounded Theory	24 M 14 F	>1 years abstinent	Self-recovery Media recruited	To advance knowledge of natural/self-change, first reporting subjective motivating factors and strategies, then
17	Klingemann, J. 2011 US and Poland	Problem-centred Grounded Theory	29	>2 years	Media recruited & Treatment	Understanding of the maintenance stage when recovering from alcohol dependence with a focus on the broader social context of change of addictive behaviour
18	Klingemann, J. 2012 US and Poland	Problem-centred Grounded Theory	29	>2 years	Media recruited & Treatment	Concepts of addiction among treated and non-treated former alcohol dependents, and their function in the process of recovery from addiction.
19	Kubicek, K. et al. 2002 US	Thematic Analysis	8 F 5 M	>6 years	7 AA 6 Self-recovery	Explored like attributes of successful recovery among 13 alcoholics
Recovery- Unstated or other source of participants						
20	Brewer, M. 2006 US	Content Analysis (thematic)	11 F	2 years	Snowballing	Identify those contextual factors that fostered and hindered the process of recovery in women
21	Bowden, J. 1988 UK	Phenomenology	8	>2 years	AA, Treatment and 1 Self-recovery	To discover the internal aspects of change in persons who are doing well living without alcohol

2.3.1 Turning point and treatment seeking studies

Most studies identified a turning point linked to increasing problems related to alcohol and, in some papers, this was the main focus of the study. Christensen and Elmeland (2015) recruited forty-two people described as having recovered from a severe alcohol problem with at least two years of recovery; thirty-one were media-recruited self-changers, while eighteen were regular and active AA members. The aim was to explore the turning points and compare the narratives for the two groups. Those in the self-changer group were more often educated or skilled and working, with intact family and friend networks; the AA members were more likely to be unemployed and have lost relationships. The AA members described how problems would get worse and worse over time until 'hitting bottom', but the nature and severity of the lowest point would differ for each individual. Being part of AA often meant telling the story of 'hitting bottom' in a certain way that would fit into the group narrative. In contrast, the narratives of self-changers were more varied and did not always include intense negative experiences of drinking; factors influencing change could include positive as well as negative experiences, and conscious decision making could play a role.

DePue et al. (2014) carried out an in-depth phenomenological study of six AA members and found that an accumulation of problems, described here as 'hitting rock bottom', were not the essence of the turning point, but that a cognitive shift also needs to occur. There was recognition that the way of living was over, or not working; a clear decision to change was then made, often alongside a new willingness to accept and follow help and advice. According to DePue (2014), this shift did not take place in isolation, but with support from friends and family and through exposure to AA. Dyson (2007) carried out a thematic analysis of interviews with eight AA members, and came to the conclusion that participants had often been aware of having a serious problem for some time before being able to admit this to others; there was often fear of others' reactions, and some participants reported negative experiences of interactions with health professionals.

Orford et al. (2006c), using a grounded theory method, analysed the interview summaries of ninety-eight entrants to the UK Alcohol Treatment Trial about their reasons for seeking treatment. They found that a recognition of "worsening, accumulating and multiple problems" (p.60) related to alcohol, particularly health and family problems, preceded treatment seeking. A crisis or catalyst event or intervention from a family member or professional was often involved in the process. Participants had rejected the possibility of self-change or peer group support, sometimes because they had tried these approaches already and failed, or because

treatment was recommended or trusted; a person's dislike for groups could also prevent peer-group engagement.

Roper et al. (2012) recruited twenty-nine participants who had approached statutory alcohol services in the UK; twenty-one were dependent drinkers and eight were binge drinkers. The group included treatment seekers who approached but did not engage in services, highlighting that this is a group that is often not included in studies. The thematic analysis of semi-structured interviews identified that the process leading to treatment seeking was often sudden rather than gradual. A 'mirroring event' often reflected back to problematic consequences of drinking: "the fact that I ended up in hospital and it was obvious why" (Roper et al.2012 p. 483). This new awareness could lead to a sense of urgency and a willingness to accept help; participants allowed themselves to be led by others without knowing what to expect.

Jakobsson et al. (2005) recruited seven male and five female participants within the first month of a community-based treatment programme; they used grounded theory to explore the process of treatment seeking and what factors might support and hinder this process. The development of a willingness to change was the core process leading to treatment seeking. Relatives, friends or professionals could influence help seeking if they were trusted, frank and seen as genuinely wanting to help. When participants felt they were in control of their drinking the idea of seeking treatment seemed irrelevant, so recognising a loss of control was important prior to seeking help. Conflicting thoughts and feelings about the benefits and negative consequences of drinking could either drive change or be an obstacle, and hope that the situation could be turned around was also important. Jakobsson et al. (2008) further analysed the data thematically to highlight that shame could also be an important barrier to seeking help, particularly for women, who viewed having an alcohol problem as incompatible with femininity.

The above studies offered overlapping and complementary perspectives of what is often referred to as a 'turning point'. However, it is difficult to assess the extent to which the degree of severity of alcohol dependence differed for the groups; Orford (2006) included a range of problem severities with an average of moderately dependent, while the AA and self-recovery groups were not clinically defined. In spite of the potential for some differences between the groups' severity of problem, there was much common ground in the descriptions of turning points across different types of studies. While all groups could experience serious consequences of drinking, it seems that self-changers were more likely to change before things escalated and prevent serious problems; a conscious decision to stop appeared to play a part for self-changers. AA and treatment group members commonly continued drinking for longer in the face of severe accumulating consequences, often until a crisis event during which family members or

professionals could influence change. Several studies highlighted the need for the person to recognise the causal link between alcohol and negative consequences before making a decision to change.

2.3.2 Studies that recruited from treatment

Three studies focused on the process of change for those enrolled in a treatment intervention, with aims as follows: to develop a model of goal progression during residential treatment (Wing 1991); to develop a model of change from patients' accounts during the UK Alcohol Treatment Trial (UKATT; Orford et al. 2006a); and to understand mindfulness-based treatment effects (Garland et al. 2012). In addition, one study focused on early treatment system experiences in the UK (Gilburt et al. 2015).

Wing (1995) conducted an observational grounded theory study and found that patients admitted for a four-week programme had not necessarily recognised that their drinking was problematic; the first aim of treatment was to facilitate readiness to change. If the impact of the event leading to admission was recognised as alcohol related and was sufficiently negative from the person's point of view, the person's normal view of their sense of self was disrupted, and a state of confusion was reached. In this confusion, the person needed to make behavioural changes in the face of ambiguity in the hope that things would improve. As people moved into action they actively sought the help of others. Wing (1991) discussed a later stage reached by several participants where mature and independent decisions could be made in relation to life plans. Wing's ethnographic study presented an analysis that was detailed and in-depth, highlighting the benefits of an observational approach. However, the timeframe was limited and the context was a contained environment, and the study did not address whether changes were maintained after discharge.

Orford et al. (2006b) explored clients' explanations of how change had occurred alongside the UKATT, and their analysis was used to provide a deeper understanding of the results of the controlled trial. Semi-structured interviews took place at three- and twelve-month follow-up appointments for a subset of those taking part in the trial (N= 211; 198). Participants were asked open questions about changes attributed to treatment as well as external causes, and were asked to expand on their answers using probes and requests for concrete examples. Grounded theory was the method employed for the analysis, which was used to develop a model of change during and following treatment. 'Thinking differently', 'acting differently' and 'family support' were the three core concepts of the model of change, with a further concept, 'seeing the benefits', relating to the positive consequences that were described in relation to these changes. The model of

change presented recognised a wider system of support for change than the trial intervention, including self-change, other services and past treatment episodes (Orford et al. 2006).

Garland (2012) interviewed eighteen participants in a ten-week mindfulness-based recovery programme, delivered to graduates or near graduates of a residential treatment programme of approximately eighteen months' duration. Garland (2012) asked participants about their experience of the group and the impact on their lives, and analysed the narratives using grounded theory. Participants reported an increase in awareness of their thoughts and feelings and how these affected their actions, and other people. Practising mindful awareness was described as illuminating the automatic sequences of thoughts and behaviours that could lead to substance use, and thereby encouraging alternative, more conscious choices.

Gilburt (2015) interviewed service users from three community treatment services in London and identified the challenges that can occur in navigating the alcohol treatment system. Requirements such as needing to attend numerous appointments across different services could lead to confusion about roles, conflicting advice and chaotic engagement, and the duration of engagement was often short. An emphasis on self-responsibility could be empowering in some cases, but also led to perceptions of not being helped, needing to do it alone, hopelessness and perceived failure. Staff skills and attitudes could vary, and a positive non-judgemental assertive style could facilitate engagement. This highlights the difference that can exist between treatment offered by a trial such as the UKATT and delivery in community services. Thus, the way services are delivered and access to treatment can be considered an important aspect influencing the process of change.

The above studies of change in parallel with treatment interventions highlight the role of changes to thinking and behaviour in the process of recovery initiated by treatment. Wing and Garland both focused on the impact of specific treatment interventions, and the processes described may be less applicable outside the context of that treatment; Orford asked questions about a wider range of changes and discovered a broader system of support for change, including personal resources, family, and previous health and treatment interventions. These studies suggest that treatment engagement can be important in order to facilitate changes in thinking and behaviour; Gilburt (2015) highlighted the difficulties that can be experienced accessing alcohol treatment services.

2.3.3 **Studies that recruited AA members**

Three studies recruited active AA members and took a longer-term retrospective view (with participants more than five years into recovery). Weegmann and Piwowoz-Hjort (2009) recruited

and interviewed five females and four males who all had more than nine years of recovery and who were active in AA. They explored the reconstruction of identity through life stories. Participants' first impressions of AA could be a sense of relief and belonging, or the opposite – a sense of not belonging and being an outsider. Most participants had some criticisms of AA, such as too much jargon, the perception that participants had dull lifestyles, or that meetings were dogmatic or male middle-class dominated. In spite of initial resistance the participants had continued to attend, and in time they had made up their own minds about what was helpful and what was not. Changes in character were considered to have occurred over time, for example from recognising arrogance to practicing humility, and a system for keeping oneself in check was adopted. In the medium to long-term a value-based or spiritual transformation was considered to take place, based on a personal understanding of a higher power. In the longer term, some participants became less engaged in AA or stopped attending, feeling that they had grown beyond the structure of the group and had developed new structures to support them. However, the group continued to be valued as a place to which participants could return in the future if necessary.

Gubi and Marsden-Hughes (2013) interviewed eight AA members with more than five years of recovery and analysed the process of change using Interpretative Phenomenological Analysis (IPA). Once participants stopped drinking they could begin to identify as sober; by attending meetings they experienced empathy and positive regard; and by hearing stories of others they recognised similarities in their own drinking patterns. At this point they could identify with the group and take on the label 'alcoholic'. Those who were unable to identify with the group and did not adopt the slogans, literature and language of AA were found to continue to drink. Hearing success stories and adopting the practices of the group led to hope, encouragement and a sense of belonging. New members recognised the importance of abstinence, the avoidance of triggers, and putting themselves and their recovery first. Progress could be seen in areas such as finance, health and relationships and the members developed an ability to be comfortable with themselves without alcohol, even though thoughts about alcohol were common at this stage. As the members progressed in sobriety they had an increasing mastery over their internal and external worlds, which developed through putting the principles learnt in AA into practice. Over time they adopted a personal pathway including the components that they found the most satisfying. Those in a more stable recovery emphasised social roles and spiritual practices such as prayer, meditation and self-reflection.

Shinebourne and Smith (2011) carried out in-depth interviews with three female active AA members who all had more than fifteen years' recovery. The interviews included a drawing technique, which aimed to overcome the tendencies for AA members to tell well-rehearsed

stories reflecting the AA group narrative. Shinebourne's analysis highlighted the process by which involvement with AA activities and processes evolved into habitual actions that became interwoven with daily life. AA revolves around a set of practices, steps or actions that introduce the person to new ways of relating to the self, others and the social world. This was seen as an ongoing process, hence the long-term involvement in AA. Long-term recovery was seen less as an identity transformation than about 'becoming and being ordinary' (p. 293).

These studies of AA members offer insight into the long-term process of recovery from the perspective of those looking back after years of recovery. There is agreement between the studies that identification with the group is an important factor, and this can mean taking on labels such as 'sober' and 'alcoholic'. The enactment of principles learnt through group identification and participation seemed to be central to the process of change; long-term recovery related to the habituation and maintenance of these changes, and could be considered transformational. The limitations of the long-term perspective of these studies was that less detail was given in terms of the specific changes made; there was also an influence of the group narrative and the retelling of recovery stories over time.

2.3.4 **Self-recovery studies**

Four studies focused on self-recovery, either solely recruiting this group or comparing this group with AA members or those who had accessed treatment. Burman (1997) interviewed twenty-four males and fourteen females who described themselves as having had a severe problem with alcohol and who were now at least one year sober. What characterised this group was that they were able to find solutions to their problems of their own volition. Membership of AA was resisted because of dislike of the religious content, horror stories, or labels such as alcoholic. Some had previous experience of quitting a substance or a family member having stopped drinking. Supportive partners and friends were important to their implementation of practical strategies, such as avoidance of drinking environments, throwing out alcohol, and choosing new non-alcoholic drinks. Strategies were developed for taking part in social events without alcohol, and for dealing with thoughts about drinking. A range of other strategies was less common and more individualised. Successful changes led to increased confidence and a sense of pride in not having needed to seek help.

Kubicek et al. (2002) interviewed seven AA members and six people who recovered without treatment or peer group support. Thematic analysis identified several aspects of change in common between the groups; both groups practiced honesty, developed self-confidence, and found it important to remember negative experiences of alcohol abuse. Both AA and self-

changers accessed support in their daily lives, and some members of both groups relied on a higher power.

Klingemann (2012;2011) interviewed self-changers and treatment participants in Poland where the dominant treatment model was the disease model. They found that self-changers naturally adopted either a medical-moral model, requiring willpower to change, or saw alcoholism as symptomatic of maladaptive social functioning. When seeking treatment there could be a conflict between lay and professional models and this could influence engagement; the adoption of a disease model could also limit a person's belief in their capacity to change. The process of recovery in the medium term meant weighing up different important aspects of recovery and managing time so as to have time and energy for personal goals.

These studies of self-changers took different but complementary perspectives on the process of change for those who manage to change without treatment or peer support groups. Burman (1997) highlighted how self-changers differ from AA members; they developed practical strategies through their own resources and experience that were effective in bringing about change. Kubicek (2002) highlighted a range of overlapping strategies with AA members, and Klingemann (2012; 2011) found similarities with treatment seekers in the need to balance priorities during recovery.

2.4 Findings of the thematic review

2.4.1 **Theme 1 Suffering**

It was common across all routes to recovery for participants to give accounts of cumulative serious problems and losses because of heavy daily drinking. Problems occurred across a range of life domains: legal issues, partners, children, friends, work and health*:*

> *"My kids were ashamed of me, the guilt mounted when they accused me of being a drunk."* (Burman 1997 p. 49)

Heavy drinking episodes could lead to vulnerability to assault and accidents, as well as being more likely to act out violently towards others or themselves:

> *"The only standard I had at the end was just to die. I couldn't make that happen; I tried to…. I was still alive the next morning."* (DePue et al. 2014 p.45)

Internal states of fear were common: fears of death, loss, injury, being found out, or fearing what one might do to others when drinking. Other intense emotional experiences were described, including guilt, shame, anxiety, depression, irritability, restlessness, anger, resentment, bewilderment and confusion: *"I was so irritable, restless, and discontent"* (DePue et al. 2014 p. 46). Drinking was often described as becoming a priority above all else, and violation of personal

values could lead to self-hatred and loathing. Studies of treatment seekers and those who went on to use AA groups often described an experience of being out of control:

> *"I could see what was happening but felt that it was totally out of my control."* (Dyson 2007 p. 213)

Once a person had stopped drinking another set of difficulties could arise for participants across the recovery routes:

> *"It's not all sunny, you know, I have my fall into darkness quite frequently."* (Shinebourne 2011 p. 228)

Recovery could at times be described as a struggle or a fight, and for some people this continued even after years of recovery time:

> *"Even after ten years of recovery and sobriety, the struggle remains exceptionally hard ... and even now there are times when it's easier for me ... when I think, when I think that it's easier to die than to make the changes that I have to make to live alcohol free."* (Brewer 2006 p. 178)

A variety of challenging emotional states were described as common in early recovery, for example fear, confusion, edginess, social anxiety and grief. Stress could also arise from daily living and tensions in relationships:

> "*Drinking didn't put us in divorce court, but drying out almost did."*
>
> *"When I was loaded, I agreed to everything my wife said ... now I didn't go along with everything and that created real difficulties."*
>
> *"It took the kids a while to get use to the rules I was setting."* (Burman 1997 p. 52)

For individuals who had been victims of abuse there could be particularly troubling memories and emotional pain. One woman described the overwhelming anger she felt when she remembered being raped, and stated:

> "*that's when I really want to drink ... get drunk ... and stay drunk."* (Brewer 2006 p. 179)

These feelings could lead to a wish to shut out problems and an accompanying urge to drink, which if acted on could lead to relapse. Lingering memories or being reminded of past behaviour could trigger guilt and shame. There was also the perception of judgement from society about being someone with an alcohol problem:

> *"Being a stigmatized person can be a lonely and painful experience. The participants disclosed they were aware of the way society stigmatized women who were alcohol dependent."* (Brewer 2006 p. 178)

2.4.2 Theme 2 Components of active change

The second theme highlighted an active process of change on the part of the person in recovery; the norm across all the studies was descriptions of changes involving the agency of the person. Active behavioural changes occurred alongside a growing awareness and new ways of thinking, and significant benefits were felt from making these changes. These components of active change were common across the studies.

2.4.2.1 Awareness

The word 'awareness' and the related word 'realised' were often used across different types of studies. At times 'awareness' was used without a clear indication about what was meant, just that it had increased or played a part:

> "*Asked how he managed to cut down the drinking in the first place he said 'selfawareness'."* (Orford 2006a p. 63)

At other times it could be used to refer to being aware of thoughts and feelings such as sadness and anger, and could also mean having a choice about how to respond to these internal experiences.

> "*Basic awareness of their present moment experience increased their insight into how their thoughts and feelings affected their actions, and in turn other people*." (Garland 2012 p. 6)

In the following example the word 'awareness' is not used, but a similar process is implied:

> *"I can look at my dark side, and I can look at my good side and I can make a choice.*" (Bowden 1988 p. 345).

Awareness could also be linked to a daily process of self-reflection, or to an awareness of changes in behaviour and cognition over time. There could also be a spiritual dimension:

> "*That whole awareness of this whole other dimension in myself … that I had been unaware of before."* (Bowden 1998 p. 346)

2.4.2.2 New thinking

Participants in the studies often described actively changing their thinking patterns, although these changes were described in various ways in the studies and there was not much common ground within and across studies. The most common type of thinking strategy related to remembering the depth of negativity when drinking. This could be achieved by attending AA meetings and listening to others' stories of their drinking history:

"Meetings remind me of what life used to be like and I know I never want to go back to that." (Dyson 2007 p. 213)

Other ways of remembering were also employed, such as helping others or more individual approaches:

"The respondent pointed to a door that was marred and splintered. `This is where I put my fist through the door when I was drunk ... it was all so insane. We redid the entire kitchen, but I left that door as it was.'" (Burman 1997 p. 51)

Other examples of new thinking related to beliefs and slogans learnt from treatment or AA groups: remembering you are an alcoholic and need to be abstinent; recognising recovery as a life-long process; and taking one day at a time. Those in self-recovery could sometimes adopt these beliefs, but often placed more emphasis on believing in their ability to change. Other thinking patterns were cited less frequently, such as keeping a positive outlook or focusing on progress.

2.4.2.3 New behaviours

Changes in behaviour were frequently referred to across all types of studies. The most common behavioural changes related to lifestyle: new hobbies and interests, new friends, healing family relationships or leaving unhealthy relationships, work changes or education, moving home, and healthy living. For some this could mean radical lifestyle changes, while others resumed old activities and relationships that had been neglected when drinking. Spiritual or religious practices were also common, particularly but not solely for AA members. Other behaviours were practical strategies directly focused on maintaining abstinence, such as throwing away bottles of alcohol, identifying new beverages to drink, avoiding some drinking situations, or developing strategies to cope with social situations.

"(Strategies) included the avoidance of alcohol environments and hangouts that would place at risk the goal of abstaining; throwing or giving bottles away; altering lifestyles and friends related to drinking; seeking alternative and pleasurable activities and hobbies; and changing jobs." (Burman 1997 p. 49)

Apologising and making amends to those who had been harmed as a consequence of their drinking was important in many cases, as was working to rebuild relationships. Some other common behaviours were related to AA participation, such as attending meetings, honest communication, sharing stories about drinking low points, engaging with a sponsor, and taking on service roles.

2.4.2.4 Rewarding results

> *"Almost all clients who had made positive changes very readily described the benefits that they saw as accruing as a result."* (Orford 2006a p. 65)

Research participants across studies spoke about the rewards that followed the positive changes they had made. The most common example were improvements in health and wellbeing and 'peace of mind' as a consequence of no longer acting contrary to personal values:

> "*I have something I never had before ... that peace. That peace of mind, and if you have never had it, once you get it, you don't want to lose it.*" (Brewer 2006 p. 178)

Another type of positive result was a sense of achievement, mastery, pride or competence:

> *"I didn't find it that difficult, I must confess I'm rather proud of myself."* (Orford 2006a p. 65)

Some participants could enjoy leisure, feel relaxed socially, and find fulfilment, purpose and contentment. Others noticed improved, deeper, respectful or more trusting relationships and could get positive feedback from family members about the changes they had made. Those who were engaged in spiritual practices saw benefits such as gaining insights, seeing different possibilities, and being able to make intuitive decisions.

2.4.3 Theme 3: Support in recovery

For those in peer groups and treatment, support was an important aspect of recovery; for some but not all self-changers, informal support from family and friends was important (Kubicik 2002). Sources of support included sponsors, new friends in recovery, GPs, nurses, AA fellowship, family and friends, and treatment agencies. Sources of informal support could provide opportunities for sharing and processing experience, opinions from others, reinforcement of positive change, company, encouragement, and reminders of the negative consequences of drinking. Family members could also be in a position to offer practical help and remind those in recovery about their drinking goals.

Treatment interventions seen as helpful included education, advice, detox and psychosocial therapies. While acknowledging treatment as helpful, some clients also expressed the view that change was self-directed. The qualities of those who were supportive included kindness, caring, compassion, understanding and empathy. This could allow someone to open up and feel understood:

> *"Just someone to talk to who understood and could explain things ... about how I'd feel"* (Orford 2006 p. 63)

In a treatment setting these qualities were valued in combination with a firm approach, described by one participant as "not putting up with any bull" (Gilburt 2015). Frequency of contact was important; those perceived as helpful were those who gave their time, and professionals who "went the extra mile" or who called to check in with clients were appreciated.

Similar qualities could be experienced in peer groups*:*

> *"Individuals began to experience, within the group process, conditions of empathy, unconditional positive regard and congruence."* (Gubi 2013 p. 205)

Peer groups went further in providing a group to belong to, somewhere to go when feeling vulnerable, and a place to meet others whose experiences of drinking were similar. AA provided a way to think about addiction, slogans, spiritual exercises, literature, opportunities to take on roles, and hearing drinking stories that could act as a deterrent:

> "*AA brought feelings of: belonging; genuine concern; love ; 'rapport'; reduction of worry; hope … first, through observation and secondly, through hearing the stories of other dependent alcoholics, recognising the similarities in their drinking patterns, a didactic process combined with the slogans, literature and language of AA, helped them assimilate within the group experience; this is the phenomenon of 'identification'*." (Gubi 2013 p. 205)

Self-changers generally did not involve others in their decision to curtail their drinking; they made their own plans and acted on these on their own. It was not unusual for self-changers to draw on past experience of overcoming an addiction successfully or other life experiences:

> *"If I look back where I got some strength, he explained, there was strength in knowing that I could do it, whatever it was. Applying his militia training to gaining sobriety was an important tactic Baird employed during his initiation into sobriety."* (Bowden 1998 p. 344)

2.5 Discussion

Twenty-one studies were identified in this literature review, which contributed to understanding the process of change during recovery from alcohol dependence, from the point of view of the person in recovery. This is a significant number of papers representing a growing body of knowledge. Thematic synthesis as developed by Thomas and Harden (2008) was intended to synthesise qualitative research across different types of analysis in order to inform healthcare provision. It could be argued that qualitative studies should not be synthesised because this process decontextualises the findings of individual studies. In thematic synthesis the context is

considered by the reviewer and there is an attempt to identify themes that belong to specific groups. The review was successful in mapping out the different aspects of change across varying routes to recovery and, presented together, these different perspectives give a more complete picture than one study alone. By integrating these studies in a thematic review, it was possible to find common ground as well as differences between the studies' findings.

Personal accounts of recovery commonly feature a turning point, when heavy drinking was abandoned in the context of increased suffering. A challenging journey of recovery followed this turning point, involving an active change in awareness, behaviour and thinking as well as rewarding results. This new direction often meant facing problems that were masked by alcohol when drinking. For those who engaged in treatment or became members of AA, these interventions offered support but also instruction about the changes to be made; self-changers drew on their existing resources and past experiences as well as support from friends and family.

Figure 1 Map of the stages of change

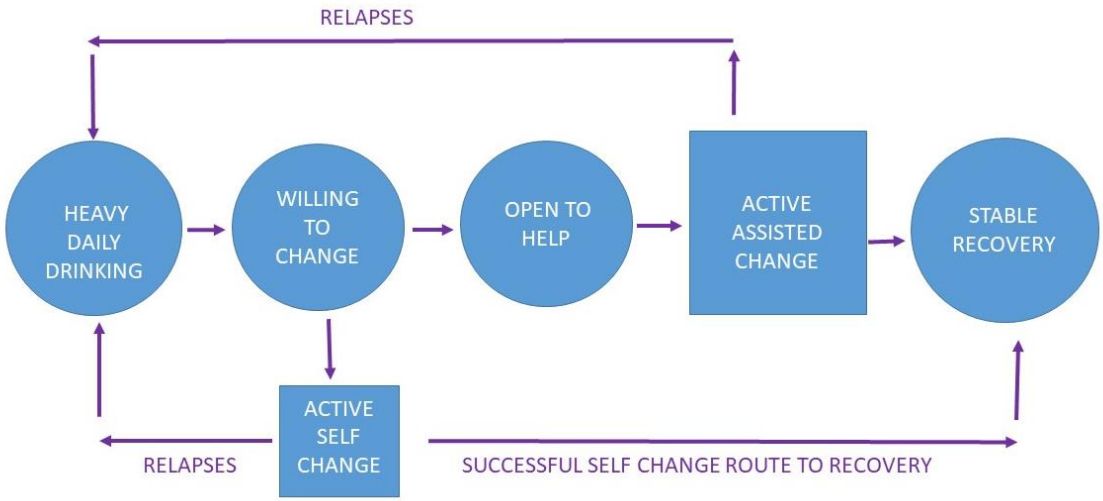


Figure 1 represents a summary map of the stages of change evident in the analysis. The first process is the transition from the pattern of problematic heavy drinking to a willingness to change; this transition may be described as a turning point. In some cases the next step is self-change; Orford (2006) noted that some people who were seeking treatment had previously attempted to change without success, so this self-change is represented in Figure 1 as leading either to relapse or to successful change. For those who are unable or do not wish to change on their own, the next transition is to an openness to accepting help. There were barriers to asking for help, such as social stigma and difficulty navigating the treatment system, and help was often accessed at a crisis point. With help either from AA groups or treatment, the means of taking

action was encountered, which if adopted and maintained led to stable recovery. Accounts of relapse and its place within recovery were not evident in the studies, perhaps because the focus was on recovery. It seems important to include this aspect, which is recognised in the broader literature to be a common aspect of the longer-term process of change, even if it is not present for everyone (Kougiali 2017).

In some respects this map of the process (Figure 1) corresponds to the trans-theoretical stage model of change (TMC), which recognises taking action as the stage that follows a decision to change, and that maintenance of these changes follows. The findings point to a less consciously considered turning point than the contemplation phase described by the TMC; apart from self-changers, the decision to change often occurred abruptly in the context of a crisis event. Another difference from the TMC is that there was no phase of planning or determination before action was taken; a crisis commonly led to active change accompanied by uncertainty about whether change was possible. These observations are in line with criticisms of the trans-theoretical model in the addiction literature (West 2005).

There were seven studies which focused on the turning point or transition from heavy daily drinking to a willingness to change. Accounts of this process highlighted that making a connection between alcohol and the problems experienced was an important step. The studies gave similar and complementary accounts of how this could occur in response to increasing problems or a crisis event. For those who had recovered via the assisted pathways there was often help available during the crisis, which may be essential for those who cannot change by themselves if they are to move forwards at this point.

The process of active change was described in a much wider variety of ways than as a turning point, but components of change such as behaviour, awareness, thinking, benefits and support were found to be common. Accounts of self-changers' processes focused on finding their own solutions, often drawing on past experiences of successful change. For treatment groups the change process was primarily depicted as a change in behaviour, awareness and thinking in the context of the treatment programme. The AA studies also described change in terms of behaviour, such as a set of steps to implement, but commonly identified concurrent processes of identification with a group, the reconstruction of identity, a transformation or spiritual growth. These differences may be partly related to the longer-term perspective in AA studies, which tended to span a number of years and may reflect later stages or a more distanced perspective; these accounts could also be more practiced, having been retold in different contexts, which may influence the account of change.

As the treatment study follow-up times were shorter than the other studies, the components of the process of change across the different types of studies relate particularly to the first year, in terms of awareness, practical strategies, lifestyle changes, spiritual practices, remembering, benefits of change and support. Examples of how awareness and thinking influenced behaviour were less common than examples of behavioural changes and consequences. Further studies could attempt to illuminate the role of awareness and new thinking; these aspects may require longitudinal follow-up and interviews closer in time to the events under study, in order to provide more detail than long-term retrospective accounts may be expected to deliver.

Recognising these components may be helpful in understanding the core processes in early recovery from alcohol dependence. Longer-term recovery may be a consolidation of the early phase, or may have distinct features still to be clarified. The review points to further research that may be required for saturation of this topic; it is not clear how these elements might interact to contribute to character change or spiritual growth.

Positive consequences referred to frequently by participants across all study types suggest a process of positive reinforcement is in play; new behaviours that take effort initially may become established as habitual because of their positive consequences. Not-drinking is a non-action and cannot be reinforced by conditioning; thus, more conscious means are needed in order to maintain sobriety. This could account for why a long-term active process of remembering how bad things were when drinking is important as a means to prevent relapse; taking on the label of "recovering addict" could serve as a useful reminder of the decision to be abstinent and the reasons for making that decision.

The majority of studies differentiated between recovery routes of AA, self-recovery and treatment-assisted recovery. However, this may be an artificial distinction as many people use both peer groups and treatment, as well as drawing on personal resources. It has been noted that many treatment users acknowledge the role of treatment while also stating that the change was "down to me" (Orford 2006b p.101 page number). It is also the case that there are a growing number of peer groups that provide an alternative to AA, some of which are now online. Research in this area is emerging (Chambers 2017); in order to compare studies that use non-traditional routes to recovery, it may be important to assess the severity of dependence within these groups.

For some people change takes place in relative isolation; those with a higher severity of dependence and associated problems are more likely to draw on external sources of support to assist change, and the changes made may be more extensive. The influence of others is dependent on the relationship, and qualities such as empathy and understanding are necessary conditions; originally identified by Carl Rogers (1959), these core conditions have consistently

been found to be important and to influence addiction outcomes. When a person can identify with a group many aspects of this change process can be influenced and supported by group membership; a process of identity change may be different from identification with a group, and might occur as part of a longer-term process.

Philosophical differences were not commonly articulated in the studies; differences between the contextualism commonly employed in qualitative research and the mechanisms underlying some interventions may contribute to this gap. Contextual Behavioural Science offers new developments in philosophy and psychology which could be applied to bridge this gap (Levin and Hayes 2012). Also, reflections on the researchers' theoretical orientation and the impact this might have on the analyses were not included in the papers reviewed; it is important to reflect on the impact of different perspectives and how these may influence the findings in a qualitative study.

2.6 Conclusion

This literature review found a significant number of studies, which together give considerable insight into the process of change in early recovery from alcohol dependence from the perspective of the person in recovery. Some of the studies that look at the process over a long period of time give less detail about the changes people made in early recovery. However, in spite of this there were common aspects of change identified across many of the studies. Further studies could focus on establishing more detail regarding the changes in awareness, thinking and behaviour that occur in early recovery; a longitudinal approach with more specific questions related to individual changes could be helpful. The thematic analysis highlighted common ground between studies, and this method may be particularly helpful if there are in fact common processes underlying change as proposed by researchers such as Orford (2009). There were no studies found that explored the process of change following a detoxification in a general hospital setting, suggesting this might be a useful addition to the literature.

Chapter 3: Methodology, Design and Methods

3.1 Introduction

This study focused on alcohol dependent patients who received detoxification from an ASNS following identification within an acute hospital setting. Approximately half the patients were followed up in a hospital setting after detoxification, which will be referred to as the City pathway. The other half of the patients, who lived in mainly town areas surrounding the city and received treatment via community alcohol specialist services, will be referred to as the Town pathway. The research questions were proposed in Chapter 1 as follows:

- What is the process of change in early recovery for this patient group?
- What treatment and non-treatment factors are seen as initiating, supporting and posing barriers to recovery?
- Is there a difference between the recovery outcomes for alcohol dependent patients following these two pathways?

The philosophical position adopted in this study, and the design and methods, are described below.

3.2 Philosophical position

The philosophical position adopted in this study is one of pragmatism, which is an approach that avoids the extremes of positivism and relativism. Positivism is an epistemological stance underlying most quantitative research, which takes the view that valid knowledge can only be derived by objective observation of natural phenomena and their properties and relations. A quantitative or positivist approach to knowledge takes the view that social problems such as alcoholism are concretely real conditions (Neale et al. 2005). In contrast, relativism suggests that reality cannot be discovered objectively, only subjectively. A relativist viewpoint might conclude that addiction and recovery come from a process of collective definition and are primarily socially constructed, rather than representing a reality that objectively exists (Neale et al. 2005). Meanwhile, pragmatism rejects the idea that researchers should take one or the other of these ontological positions. Knowledge is both constructed and based on the reality of the world we live in (Burke and Onwuegbuzie 2004).

Pragmatism views the purpose of knowledge within an evolutionary context (Goldkuhl 2004). Knowledge has its origins in biological adaptive behaviour, the function of which is to control the

conditions of the environment. Humans did not evolve to observe reality but to change reality in favourable ways. From this perspective, valued knowledge is that which helps us to influence the world in positive ways. Pragmatism focuses on the problem to be researched and the consequences of the research.

From a pragmatic perspective, the way to change existence is through action guided by knowledge and purpose (Goldkuhl 2004). Action is the primary unit of analysis, and other matters are seen as centred around actions. Questions that can guide researchers include: what action is being performed? who is the actor? what are the results of the action? who is the receiver? what are the intended and unintended effects of the action? how is the action aided? and what is transformed in the action? At the macro level of analysis a practice is a set of actions that are related and combined in a meaningful way (Goldkuhl 2004).

In this study different types of knowledge are valued to the extent that they inform our ability to influence recovery from alcohol dependence. This study focused on individual accounts of their own behaviour as the primary unit of analysis. Personal accounts may not always reflect actual behaviour in a certain context (such as when someone wants to make a good impression), and it is therefore important to maintain the perspective that reported behaviour might be influenced by contextual factors. The intention in this study was to create conditions where personal accounts of behaviour will be likely to closely relate to actual behaviour (similar to methods of behaviour analysis in therapy), while recognising that the lens of personal accounts is one step removed from direct observation. It is therefore considered that these accounts will be sufficiently related to actual behaviour to allow the following questions to be explored: what actions do people take in recovery, and with what purpose? What knowledge does a person need to guide the actions they take in recovery? How can practices at an organisational level influence the behaviour of a person in recovery?

3.3 Study design

As no previous research has explored the process of change from the perspective of this patient group, a qualitative approach was considered most relevant to address the first and second research questions. Furthermore, the literature review identified another gap in knowledge which could be addressed in a qualitative study: to identify the common changes in awareness, thinking and behaviour that occur in early recovery. The third research question relates to outcomes post detoxification, and suggests a primarily quantitative approach. The two recovery pathways were already defined and being implemented, providing an opportunity for a natural controlled experiment. There was also the potential for qualitative and quantitative methods to provide

complementary findings relevant to the comparison of the two recovery pathways; therefore, a mixed methods approach would be appropriate.

Hanson et al. (2005) suggested that early decisions in designing mixed methods studies involve considering the relative weight to be given to the qualitative and quantitative aspects. It was also important to consider this within the time and resource limitations of this study. In considering the potential for a prospective quantitative study, it was difficult to identify the outcomes this approach would most usefully measure from a recovery perspective. Measures of recovery were considered, but those that were identified were still being developed (Burns and Marks 2013; Groshkova et al. 2013), and their degree of relevance for this patient group was not clear. It was considered that routinely collected data could be used effectively for the quantitative comparison of the pathways, and a number of potential sources of data were explored. Routine data had been collected for all patients using the service since its inception in 2010, including a number of relevant outcomes. Other potential sources of data were identified: hospital patient data, primary care data, and national drug and alcohol service data. A retrospective approach had the advantage of including a large sample and avoiding the problems of follow up time often encountered in prospective addiction studies.

While the quantitative part of the study aimed to establish if an effect had occurred in the available outcomes, the qualitative part of the study aimed to understand the process by which any detected effect might have occurred. It was considered preferable to use participants' accounts of their own recovery through semi-structured interviews, rather than a more naturalistic observational method in which it would have been difficult to capture a range of changes occurring over time. A longitudinal prospective approach was adopted as this would allow changes to be tracked and described over time and close to the time when they occurred.

Three questionnaires were also incorporated into the interviews. These took a theoretical perspective on change based on the literature, as it was originally planned to take both the person's perspective and a theoretical perspective. However, in implementation it became clear that the questionnaires did not resonate well with participants, meaning that the rich accounts given by the participants would form the basis of the analysis. I also realised that I needed to suspend the use of concepts as far as possible while opening myself to the participants' perspectives. Therefore, as a consequence of the non-resonance of the other questionnaires, the only questionnaire to be included in the analysis was the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). One consistent finding in the literature is that readiness to change predicts change, and this has also been shown to apply to a post detoxification group (Freyer-Adams 2009). It was thus considered to be relevant to use a measure of readiness for

change in order to position the interviewed participants in terms of this concept. SOCRATES is a validated and reliable instrument designed to assess readiness for change in alcohol abusers (Miller and Tonigan 1996).

The research questions were addressed in a two-part mixed methods study:

- A prospective longitudinal study exploring the process of recovery and factors that support and hinder recovery in patients following the two pathways. This part involved in-depth qualitative interviews.
- A retrospective analysis of existing routine data comparing outcomes for patients in the two pathways. The null hypothesis is that there is no difference between the recovery outcomes for those following the two pathways.

Another issue of consideration in a mixed methods study design is the order of data collection (Creswell 2003). However, in this study, because the quantitative data were already collected this aspect was not as relevant as the order of analysis. Separate qualitative and quantitative analyses were followed by integration. Fielding (2012) proposed that data integration has three purposes: illustration, convergent validation (also known as triangulation), and the development of analytic density or richness. These purposes guided the combined analysis. Integration of the quantitative and qualitative findings had the potential to extend the scope and depth of understanding and to provide useful illustrative material to convey findings to audiences such as commissioners.

Mixed methods studies often employ an embedded design where the qualitative sample is selected from participants from the quantitative part of the study (Creswell 2003), but as the retrospective data were anonymised this was not possible in this study. Figure 2 shows that aspects of the recovery pathways following detoxification with the ASNS had changed by the time of the prospective interviews. As the aim of the qualitative analysis was to identify common aspects of change that occur across different interventions, it was anticipated that the qualitative findings would still be highly relevant to provide insights into the earlier version of the pathways that would be compared in the retrospective part of the study. The overall mixed methods study design is represented in Figure 3 as it was implemented.

Figure 2 The Recovery Pathways changes over time

CITY PATHWAY 2012- APRIL 2015

Hospital Based Specialist Alcohol Services:

1. 1 to 1 outpatient appointments with ASNS for up to a year, weekly at first then reducing gradually. (biofeedback of blood results, health interventions and recovery support)
2. 1 to 1 with Alcohol Intervention Team focused on recovery and relapse prevention
3. Acceptance and Commitment Therapy Groups
4. Referrals to job centre, health trainer, & other services

TOWN PATHWAY 2012-APRIL 2015

Community Based Specialist Alcohol Services:

1. One ASNS follow up session one week post detoxification.

2. Referral to community Alcohol Services
- Access to open group meetings
- 1 to 1 appointments with specialist nurse and customised recovery plan
- Counselling services
- Access to peer support

CITY PATHWAY APRIL 2015- Present

Hospital and Community Based Specialist Alcohol Services:

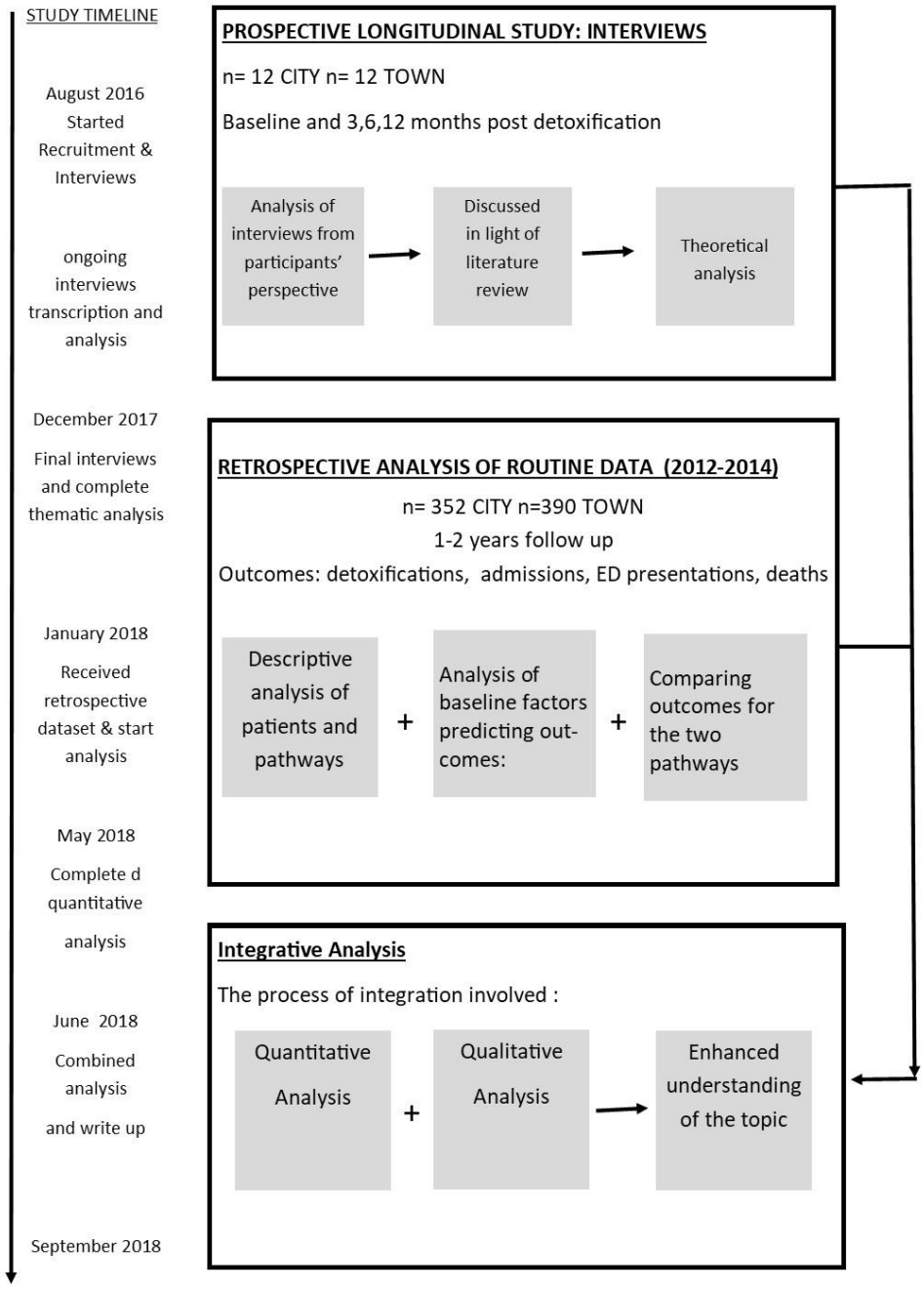
1. 1 to 1 outpatient appointments with ASNS for up to a year, weekly at first then reducing gradually. (biofeedback of blood results, health interventions and recovery support)
2. Referrals to community recovery hub and access to 1 to 1 and a network of recovery groups.
3. Referrals to job centre, health trainer, specialist services

TOWN PATHWAY APRIL 2015- Present

Community Based Specialist Alcohol Services:

1. Referral to community Alcohol Services
- Weekly recovery group in some areas
- Access to open group meetings
- Access to counselling services
- Access to peer support

Figure 3 Study design and timeline as implemented



3.4 Ethical considerations in designing the study

As a member of the British Association of Counselling and Psychotherapy (BACP) I am bound to apply their ethical guidelines to any research undertaken. Protecting the safety, rights and dignity of research participants is considered to be at the core of research ethics (Bond 2004; BACP 2018). There are four key areas identified within the BACP code of conduct:

1. Participation in research is based on freely given informed consent.
2. The research proposal is reviewed independently.
3. The researcher maintains attention to client safety and consent throughout the study.
4. Relevant legal regulations and requirements are taken into account.

These principles were considered carefully while planning the study, which is demonstrated in the description of the research process below. Additionally, it was considered that research can be discriminatory when certain groups are excluded by the research process (Braun and Clarke 2013), and efforts were made to be as inclusive as possible. The safety of myself as the interviewer, and the safety of others such as children in the care of the participant, were also important to consider in designing the study. NHS ethical approval was granted by South Central Hampshire B Research Ethics Committee (SC-HBREC) on 28th June 2016, and Health Research Authority (HRA) approval was gained on 18th July 2016. A substantial amendment was submitted on 22nd November 2016 and approved by the SC-HBREC on 3rd January 2017 and the HRA on 20th January 2017; two minor amendments were later submitted and approved. Ethical issues addressed in the application and amendments will be discussed alongside the research process as it is described.

3.5 Qualitative longitudinal study

3.5.1 Introduction

A prospective longitudinal qualitative study explored the process of change in early recovery and factors that support and hinder this process. A purposefully selected sample of 24 was recruited from the Alcohol Specialist Nurse Service (ASNS) following alcohol detoxification. All 24 participants had an initial research meeting consisting of the consent process, a semi-structured interview and the completion of three short questionnaires; twelve of those 24 participants had follow up interviews, with three also completing interviews at one year. Interviews were transcribed and analysed using thematic analysis, identifying primarily inductive themes; this was followed by a theoretical analysis of the findings and questionnaire.

The research proposal and Participant Information Sheet (PIS) were reviewed by the Wessex Alcohol Research Collaboration (WARC) public involvement group (including research and clinical professionals, members of the public, members with a past experience of alcohol dependence, and members of Supporting Together Alcohol Recovery (STAR) patient group). There were three main influences of this consultation on the design of the study. Firstly, it was suggested that a larger number of participants should be recruited than initially suggested as it was considered likely that a high number of this client group would drop out of a longitudinal study. Secondly it was suggested that patients be asked about their view of recovery in addition to the planned interview questions. Thirdly, changes to the wording of the PIS appropriate to a lay understanding of the research study were suggested and adopted.

3.5.2 **Sample selection**

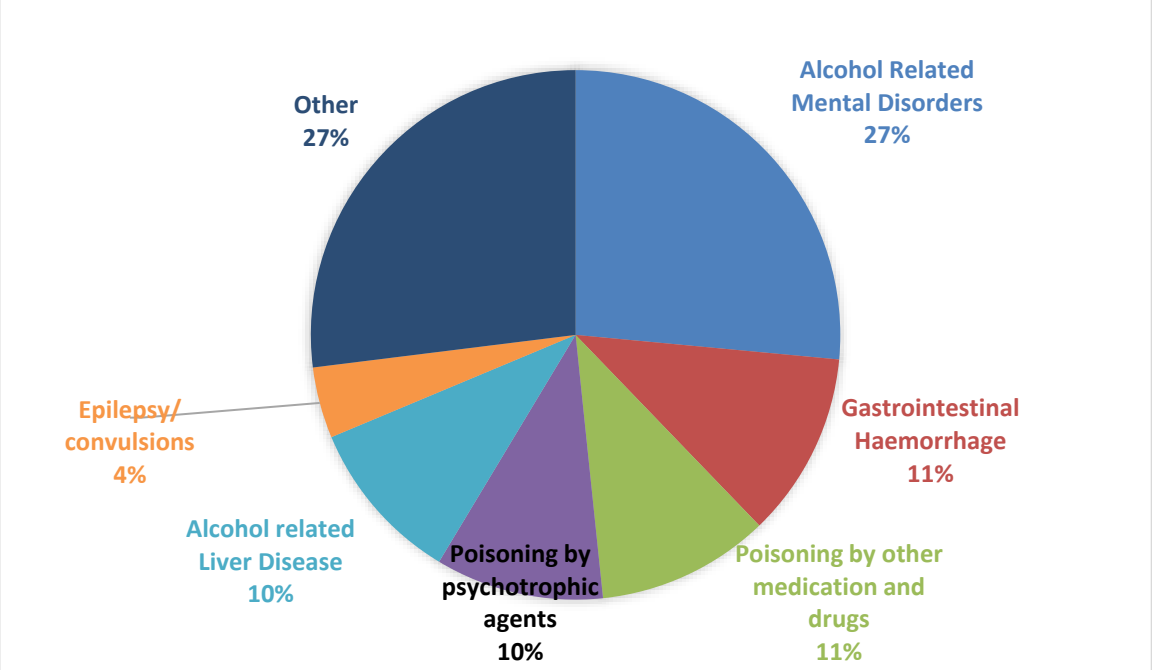
The focus of this study was the group of patients who require alcohol detoxification within an acute medical hospital setting. A prior study in the hospital suggested there would be a wide range of diagnoses on admission (Westwood et al. 2017), the most common being: alcohol related mental disorders; gastrointestinal haemorrhage, poisoning, liver disease, epilepsy, and convulsions. The intention was to include as many patients as possible to cover the full spectrum of comorbid conditions experienced by that patient group. Participants with disabilities were enabled to access appointments, and the needs of people living with illness or cognitive impairment were taken into account (e.g. rest periods). There were no resources available in this study for translation services. However, no one was identified to take part in the study who did not have English as his or her first language, so this did not limit participation.

Mental and physical health issues and cognitive impairment are often listed as exclusion criteria in alcohol studies, but they are common in this patient group (Weaver et al. 2003). For some patients, these conditions could be a barrier to being able to take part in the research. However, many such conditions improve within the first few months after detoxification (Driessen et al. 2001; Peterson et al. 2002). In order to be inclusive, patients who were unable to consent to take part at one week after detoxification (because of cognitive, mental or physical impairment) could be recruited within the first six months if their condition had improved sufficiently. This was only possible for those who received extended intervention with the ASNS; this did not occur in implementation.

The nurses did not offer outpatient detoxification and follow up sessions if the patient intended to resume drinking as soon as they were discharged from hospital; thus patients who had no

intention to change their drinking at this time were not included, in keeping with the focus of the research, which was to understand the process of change and engagement with recovery. Being single, living alone and having a history of alcohol treatment have been shown to influence outcomes post detoxification in alcohol treatment populations (Ponzer et al. 2002; Walter et al. 2006b; Muller et al. 2008; Picci et al. 2014; Schellekens et al. 2015). Therefore, the selection process aimed to include participants who fell into these categories. It was intended that an equal number of City and Town patients would be selected in order to reflect the different pathways and allow comparison between these groups; this was achieved in implementation. ASNS data suggests a range of diagnoses on admission (Westwood et al. 2017, see figure below); it was intended that the sample would reflect this range.

Figure 4 Medical Assessment Unit admission diagnosis for higher risk alcohol category



Inclusion criteria:

- Male or female, aged 18 years or above
- Completing detoxification or completed detoxification within the past six months
- Willing and able to give informed consent – sufficient cognitive capacity to participate.
- Resident within the hospital catchment areas

Exclusion criteria

- Unable to give consent or attend due to physical or mental health or cognitive impairment by six months following detoxification
- The patient expressed no intention to change
- The patient was referred from community services (this criteria was amended during recruitment to exclude only those who had never been referred from within the hospital; thus, those patients with a history of detoxification and referral from within the hospital could be included in spite of a community referral on this occasion)

Purposive selection

- 20 participants from City and 20 participants from surrounding town or rural areas
- At least five participants with the following factors: single, in a partnership, living alone, living with others, previous alcohol treatment, first presentation
- Participants with a range of comorbid physical and mental health diagnoses considered typical of the patient group

3.5.3 Recruitment and consent

The ASNS team were visited before starting recruitment and at least twice a week during the early recruitment process, tapering off as the process progressed. All staff were introduced to the study and recruitment process, either in their team meeting or on an individual basis. The nurses were introduced to written materials, including a checklist for nurses to guide the identification of potential participants (included as Appendix C) and the Participant Information Sheet (PIS – see Appendix D). There was also a copy of the Mental Health Capacity ACT Code of Practice (2007) made available. Research visits served as a reminder to the team to identify and refer potential participants, and as an opportunity for the researcher to answer any questions.

Participants were usually recruited to the study during the last few days of detoxification at the ASNS, but could also be recruited at any time within six months post detoxification, allowing time for recovery for those with cognitive impairment or other conditions that prevented them from taking part initially. If patients met the selection criteria they were asked by an alcohol specialist nurse if they would be interested in taking part in the study. All eligible patients received a copy and a verbal summary of the Participant Information Sheet (PIS) from the nurse. If the patient was interested in taking part they were asked to give written permission so that their preferred contact details could be passed on to myself as the researcher.

In order to make an informed choice about taking part in a study, participants need to understand the purpose of the study and what will be required of them. In this study, some included

geographical areas had lower mean educational achievements than the UK average (PHE 2015) and there was potential for some participants to be unable to read. It was important to ensure that written information was understood before consent was requested. The PIS was designed to be easily understood, and this study included a meeting with the researcher to explain the study before consent was given.

Initially referrals to the study progressed slowly; especially during busy periods, nurses found it difficult to remember the study among many other priorities. After discussion with me at a team meeting, the nurses agreed to record in their diary a reminder to approach clinic patients who were attending for outpatient detoxification. This led to the process becoming part of their routine, and an increased rate of referrals. Patients who completed their detoxification in hospital did not always go on to attend the outpatient clinic for several reasons: those under the Town pathway were not offered any follow up post detoxification; some patients were discharged without the ASNS being informed in time to review them; and other patients refused further help. It was more difficult for the nurses to recruit patients outside the clinic. Additional attempts were made by the research nurses from within hospital departments to approach and recruit these patients. This resulted in two additional referrals.

Following referral, I collected the permission slip with contact details from the ASNS administrator, and contacted the potential participant within two to four days to summarise the study and answer any queries. If the patient agreed to participate, an appointment was then made with me as soon as was practical. In order to maintain confidentiality the patients' names and contact details were stored in a locked cabinet in a locked room at the hospital research building. When conducting such appointments, it is important to consider any potential harm to the researcher. Therefore, interviews took place in the hospital research room where possible. When seeking an alternative venue safety issues were considered – for example, by ensuring that others were present in the building who could assist if safety issues arose.

At the first research appointment with each participant I began by explaining the purpose and process of the study. Confidentiality was clearly explained in the PIS and in the initial interviews. It was important to convey information about the protection of confidentiality as well as about the limits to confidentiality. In the case of the disclosure of planned criminal activity or serious past criminal activity for which there has been no police involvement, there was no guarantee of confidentiality given. Also, participants were made aware that potential harm to a child or adult would need to be disclosed to the relevant authorities and would be discussed within the research team before disclosure was made (a point raised by the research ethics committee). Following this discussion the participant had the option to consent to be part of the study by

signing the consent form (see Appendix E). One participant withdrew shortly after consenting as they needed to leave early and did not attend the next appointment or make contact; this person is not included in the recruitment numbers, because although he consented there were no data collected.

Qualitative interviews, while potentially a positive experience for participants, have the potential to trigger strong feelings such as loss, regret, sadness or anger when talking about significant life events. It was important to discuss with participants at the initial interview how they might cope if such experiences arose. It was made clear to all participants that they could stop talking about something whenever they wished to, or withdraw consent at any time. In the event of obvious distress or the disclosure of risk factors such as suicidal thoughts, it would then be possible to prioritise the needs of the patient above the research and seek to engage the participant in relevant help. Telephone interviews may make it more difficult to identify when a person is distressed as non-verbal cues are not present. To compensate for this, participants in telephone interviews were asked for feedback about how they were finding the sessions.

3.5.4 **Data collection**

Permission was gained within the consent process to obtain background information from the ASNS assessment paperwork. The consent form (see Appendix E) indicates which data fields would be recorded. Following consent the recorder was turned on for the initial interview.

The original research proposal stated that the first interview would last twenty minutes and focus on collecting background information about previous contact with alcohol services and the hospital. It was not initially planned to use this within the qualitative analysis. However, it became apparent that inviting participants to speak about past contact with services and experiences in hospital prior to this detoxification provided valuable qualitative data relevant to the research questions. Furthermore, some meetings took place several weeks after detoxification due to delays in referral, time spent getting in contact, arranging convenient appointments, and rearranging missed appointments. This meant that questions about changes they had considered or made, which were planned to be the focus of the later interviews, had become relevant by the time of the initial interview. These changes were submitted to the Hampshire B Ethics Committee and the HRA as an amendment, and approved.

Three questionnaires were included alongside the qualitative study in order to complement the participant accounts of the process of change. The first questionnaire (see Appendix F) was the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). As discussed in the introductory chapter, readiness to change is a well-established concept in the addictions

literature and consistently predicts relapse outcomes. SOCRATES is a validated and reliable instrument designed to assess readiness for change in alcohol abusers (Miller and Tonigan 1996). Two other questionnaires were included in order to assess central concepts from contextual behavioural science. The Acceptance and Action Questionnaire for Substance Abuse (AAQ –SA) was developed by Luoma et al. (2011) to adapt an established measure of acceptance and behaviour change (AAQ) to the substance abusing population. This tool has been found to have good internal consistency and construct validity when used with a substance abusing treatment population (Luoma et al. 2011). The Values Questionnaire (VQ) measures valued living, which is a concept shared by a range of therapeutic approaches in the addictions field. The VQ is also considered to be valid and reliable (Smout et al. 2014). The questionnaires were intended to complement the interviews rather than direct them, and were therefore included at the end of interviews.

The questionnaires were completed at week one. The reading capacity of participants was not assumed, so the scales were explained and the questions were read out if the participant preferred. In practice, this usually took approximately ten minutes rather than the allocated time of twenty minutes. Two participants declined to complete one of the questionnaires (AAQ-SA) at baseline, giving the reason that they did not want to think about cravings as it might trigger cravings; a further participant was not asked to complete any questionnaires as she was emotionally distressed.

The plan was to use the questionnaires in the theoretical analysis only to the extent that they were found to be relevant to the process of change as described by participants. As mentioned in 3.3, the completion of these questionnaires did not resound with the participants nor the research questions and, as a result, the AAQ-SA and VQ were excluded from the analysis.

Follow up research appointments took place at three, six and twelve months after detoxification. While initial appointments took place in the hospital, if the participant was unable to attend the hospital for follow up research appointments alternative venues were considered, such as recovery services local to the patient. Reimbursement for travel was available for attendance at research appointments not linked to other health appointments. As attrition rates were expected to be high with this patient group, if it was not possible to arrange a face-to-face meeting then telephone follow up appointments were made. Participants were reminded about the purpose and process of the study at each follow up appointment, and verbal consent was recorded at each appointment, for both telephone and face-to-face appointments. If it was evident that a participant's capacity to consent was reduced, for example if they were intoxicated, the interview would not be carried out at that time and would be rescheduled.

In spite of a number of attempts to contact participants by text and letter, half the participants were not interviewed a second time. Several did not reply to any contact, others were reported to be seriously ill or in hospital by a family member, and others spoke with me on the phone, having relapsed, meaning they were unable to take part. Only three participants attended interviews at one year, and there was no indication as to why the others had lost contact by this time.

The first part of each follow up meeting (approximately forty minutes) was a semi-structured interview. Sessions were recorded using a digital recorder and an additional pick up device for the telephone sessions. Participants were informed during the initial conversations and the consent process about the research, and that both face-to-face and telephone interviews would be recorded, and they were reminded of this at the beginning of each meeting and telephone interview. If a participant had asked the researcher to stop recording, the recorder would have been turned off and permission would be requested from the participant to take notes; no-one requested this in practice. Interviews were minimally structured using the open questions below, which are described in more detail within the topic guide (see Appendix G). These questions were designed to identify specific and detailed examples of change, in particular actions or behavioural changes, which were seen as the primary unit of analysis according to the pragmatic approach. The final question about recovery was suggested during the PPI consultation.

- What changes have you or others noticed since our last meeting?
- What changes have you been deliberately making or attempting to make? Can you give me any specific examples of when you did something differently?
- What changes have you been considering but haven't acted on yet?
- What or who has helped you? Anything or anyone else that helped?
- What or who have been obstacles for you? Anything or anyone else that were obstacles?
- What does the word "recovery" mean to you?

The last fifteen minutes of each follow up research appointment was spent filling in the same set of questionnaires that had been completed at the initial research meeting. Completing these by phone was more difficult than face-to-face. Participants were reminded of the scale related to each questionnaire and asked to write this down if necessary, before the researcher read out each individual question. In practice some questionnaires were not completed for several reasons: if time was pressured for the individual the interview was prioritised, and there was some reluctance to complete questionnaires over the phone as it was a more complicated process involving writing down the scales.

During implementation there were no concerns about any immediate risk to a participant. However, there was one initial interview and several telephone sessions where the person was

considered to be in distress. In these instances, listening support was given, as well as suggestions to engage in appropriate help or advocacy services where access to services was perceived as difficult; the opportunity to talk and the advice were always received well. Many participants shared that they found the interviews helpful as an opportunity to offload and reflect, in particular when they had made progress. One participant shared that it was difficult to come back after a relapse because she was disappointed in herself and wanted to be able to share positive progress; it is not known if other people did not come back for similar reasons. These issues were discussed anonymously in supervision when the need arose.

It was relevant to consider contextual factors that could influence the content, such as the motivation of participants in taking part in the research. Most participants expressed a wish to either help themselves, to help others overcome alcohol problems, or to assist the researcher by taking part in the research. These motivations were sometimes reflected in what was said; some participants used the opportunity to offload about difficult experiences or talk through options, while others gave their opinions about how services could improve. The communication style of the researcher is another contextual factor that will influence the account given. As the researcher, I aimed to say as little as possible apart from asking open and probing questions. It was helpful to notice when the person's speech or body language suggested that emotions such as shame might be influencing their account of events. Validating, equalising or normalising comments were used to reduce the impact of this on the conversation and encourage openness rather than self-censorship. Participants often commented that they felt comfortable to open up, and that taking part in the research was seen as beneficial.

3.5.5 **Data analysis**

All of the interviews were transcribed and analysed using Nvivo software. Thematic analysis was employed, as described by Braun and Clarke (2006). Thematic analysis is not bound to a particular ontological or theoretical position and it is thus compatible with the pragmatic and contextual approach adopted in this study. The first stage is familiarisation with the data. This began during the process of transcription and continued with reading the transcripts. An attempt to hear and understand what participants have to say in a literal sense is referred to by Braun and Clarke (2013) as the surface explicit analysis. Familiarisation is an active process which goes beyond the surface meaning of the words to a critical and analytic reading reflecting on the meaning of the data.

3.5.6 **Coding**

In thematic analysis, "coding is a process of identifying aspects of the data that relate to the research questions" (Braun and Clarke 2013, p.206) and can be of two types – complete coding and selective coding. In this study the interviews were analysed using complete coding, where the whole dataset is analysed to identify everything that is relevant to the research questions.

Codes are words or brief phrases used to identify and provide a label for an aspect of the data that is relevant to the research question. One piece of data can be coded in several ways, and codes can represent semantic meanings or more conceptual interpretations of the data. Semantic coding mirrors the participants' language and concepts rather than those of the researchers. Latent coding is informed by the researcher's conceptual and theoretical frameworks, which will allow the researcher to see things in the data and code things in a certain way. This was taken into account in the analytic process, such that when coding the initial interview data the structure of the codes was closely related to the research questions. When participants spoke of an aspect of their experience which they viewed as either supporting or hindering their recovery, it was coded semantically under these two sub-headings.

Identifying the aspects of the data relevant to the process of change was informed as far as possible by the semantics of the data. During analysis the intention was to put the application of concepts to one side, and attempt to contemplate and reflect the participant's experience; in practice there was a clear difference between this more inductive approach and a theory-led approach. Thematic analysis recognises that the product of analysis will differ for different researchers, even when the aim is to faithfully reflect the perspectives of participants. Concepts that had been adopted by participants through past involvement with therapies were also evident in how they talked about changes.

Codes were applied to capture the different aspects of the change process, factors facilitating change, factors hindering change and sources of support. These codes often overlapped with one extract usually being coded several times. Table 2 below shows the codes that were used relating to the process of change and the categories that were developed from these as the coding progressed. The categories of codes were behaviours, new thinking, awareness and feeling the benefits. Figure 5 shows the overlapping nature of the codes and the main codes for factors supporting recovery and sources of support from the analysis of the first interviews.

Figure 5 Overview of coding of initial interviews

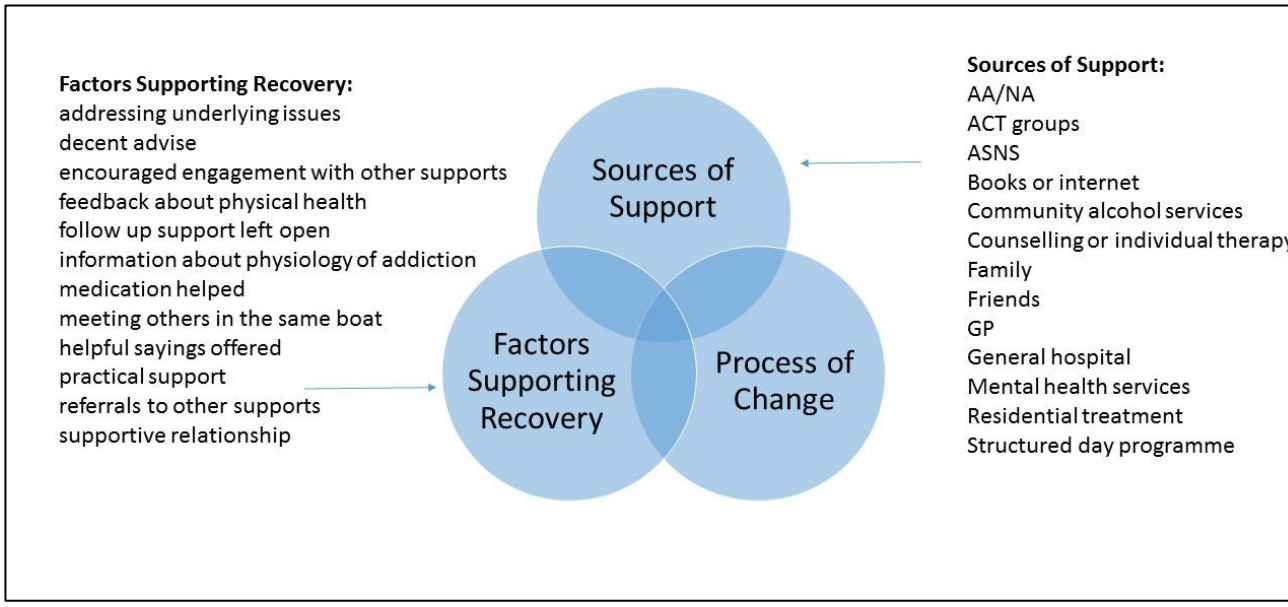


Table 2 Coding for the process of change

Feeling the benefits	**Behaviours**
1.Appreciating and enjoying living	1. Communication
- appreciating doing things with and for my family	- new communication skills - honesty
- appreciating food and non-alcoholic drinks	- making amends - opening up
- appreciating small things	- saying I love you - telling people
- enjoying myself	2. Practices
- feeling well from healthy living	- counting the days dry - gratitude practice
- life is better when it's steady	- meditation practice - reflective reading
2. Sense of capability	- staying in the present - therapeutic writing
- empowering	3. Everyday life
- feeling on top of things	- driving - exercise
- getting positive feedback	- home making - keeping busy
- pleased I can handle things again	- routine - self care
- satisfaction at doing something	- saving money
3. Free from drinking	4. Strategies to deal with trigger situations
- feeling free	- avoiding trigger situations
- feeling well again	- limiting access to money and alcohol
- more relaxed	- strategies for social occasions involving alcohol
- seeing my family happy	- throwing away alcohol no alcohol at home
New thinking	5. Work and learning
1. Acronyms and sayings	- getting back to work - volunteering
2. Lower expectations	- learning
3. Making plans for a better future	6. Social and activities
4. Own decisions	- activities - helping others
5. Remembering how bad it was when drinking	- making new friends - socialising
Awareness	- time with family
1. Aware of consequences of behaviour	**Doing things I don't feel like doing**
2. Aware of my physical or emotional state	**Not fuelling negative thinking**
3. Aware of my thinking	

3.5.7 **Identifying themes**

Themes were identified through a primarily inductive process to provide a rich account of the participants' perspectives on change. In thematic analysis a theme represents a central organising concept which tells something meaningful about the data in relation to the research question (Braun and Clarke 2013). Developing themes is seen as an active process in which the analyst makes choices about how to sculpt the data into an analysis. Codes and collated data are reviewed to identify similarity and overlap between codes, with a view to identifying the most salient patterns in the data in relation to the research questions.

Using Nvivo software matrix tools, the patterns and overlaps between aspects of coding were visually explored. The themes were developed by exploring the patterns of interaction between the aspects of the process of change (behaviour, thinking, feeling the benefits and awareness) in relation to a central organising principle; from a pragmatic perspective the purpose of behaviour is central to the analysis, so this guided the development of the themes. There were three overarching purposes to the changes people made: not drinking; day to day living; and facing problems. These became the three core themes related to active change.

The follow up interviews were coded using the same process, and the existing codes were added to as required. The follow up interviews were divided into those that took place between three and six months after detoxification and the three interviews at twelve months. Subthemes were identified during a process of writing, which is considered to be an analytic process in thematic analysis (Braun and Clarke 2013). Each theme was analysed through a process of writing about the themes in relation to the codes, involving a deeper reflection on the meaning of the codes and how they interrelated within each theme. Initially each time period was written about separately, but during this process it became clear that certain subthemes developed over time within the data, so they were then rewritten to reflect this.

After writing about the themes, summary tables were developed, initially as a way of providing feedback to participants about the findings of the analysis, and they were later found to be useful summaries in communicating the findings more widely.

Following the initial analysis, which took a primarily inductive approach, a theoretical analysis was applied to the findings. The theoretical analysis drew on contextual behavioural science, which offers a broad theory of change based on behavioural principles and relational frame theory; other theories that are compatible with this philosophical approach were included to extend the analysis.

3.6 Retrospective analysis of routine data

3.6.1 Introduction

Data were selected from five data sources for a retrospective cohort study to compare outcomes for two groups representing the recovery pathways between April 2012 and the end of 2014, and to explore risk and protective factors in relation to the outcomes. The extended hospital-based service for the city pathway will be referred to as EXT-INT and the brief follow up with referral on for the town pathways as BRIEF-INT.

3.6.2 Data sources and quality

This retrospective analysis of routine data made use of five sources of data in order to describe the characteristics of the patient group, gain insight into their use of services and compare available outcomes for the two pathways (see Table 3). The Alcohol Specialist Nurse Service (ASNS) has been running since 2010 and computerised records exist of all the individuals who have used the service since that time; the hospital patient administration system (PAS) includes records of hospital episodes, outpatient clinics and pathology. The Care and Health Information Analytics (CHIA) holds pseudonymised primary care records (morbidities, attendances, medications) from about 80% of the general practices in Hampshire, Portsmouth and Southampton, and at the time of this study these records were linked with laboratory test data and hospitalisation data (from NHS Digital) as well as other data (e.g. Community Care). The National Drug Treatment Monitoring System (NDTMS) manages data regarding treatment episodes for all patients who have used statutory specialist alcohol treatment services.

It was anticipated that using data from these additional sources would provide a wider and more complete picture than the hospital data alone. Following consultation with CHIA and NDTMS it was planned to link the ASNS, PAS and CHIA data, but not the NDTMS data which would remain separate from the main dataset and in aggregate form. Formal data applications were submitted and approved by CHIA and NDTMS. Government Statistical Services were also used to access rural-urban classifications (University of Sheffield 2013), and Multiple Deprivation Indices (Oxford Consultants for Social Inclusion 2015) linked to the dataset using lower super output areas in the main hospital dataset.

Table 3 Summary of baseline and outcome data

(Grey- data that were not used in the analysis)		Source	Reason for omitting data
Baseline Demographics:	Age band at ASNS assessment	ASNS	Included
	Gender	ASNS	Included
	Ethnicity	ASNS	Included
	Employment status	ASNS	Included
	Indices of deprivation	GSS	Included
	Rural/urban classification	GSS	Included
	Area of residence (identifies pathways)	PAS	Included
	Lower super output area	PAS	Included
History:	Prior Emergency Department Attendances	PAS/CHIA	CHIA out of area hospital events no longer available
	Prior hospital admissions	PAS/CHIA	CHIA out of area hospital events no longer available
	Prior co-morbidities	CHIA EXT-INT	Sufficiently complete for one pathway only
	Age of first alcohol use	ASNS	Omitted as data difficult to interpret
	Age regular alcohol use	ASNS	Omitted as data difficult to interpret
	Age problematic use	ASNS	Omitted as data difficult to interpret
	Prior alcohol treatment episodes	ASNS	Omitted due to amount of missing data
	Outpatient clinic usage	PAS	Omitted due to time available for analysis
	GP service use	CHIA	Omitted due to complexity of data extraction
Assessment:	Referral source	ASNS	Included
	Admission diagnosis (1–6 recorded)	PAS	Included
	Liver function tests (ALT, Albumin, Bilirubin*)	PAS	*Other tests omitted due to amount of missing data
	AUDIT Score	ASNS	Included
	Units per week	ASNS	Included
	Alcohol Withdrawal Scale (CIWAR)	ASNS	Included
	Discharge diagnosis (1-6)	PAS	Included
	Leeds Dependence Questionnaire (LDQ)	ASNS	Omitted due to amount of missing data
Process Outcomes:	Duration of ASNS Treatment (dates)	ASNS	Included
	Duration of admission to hospital (dates)	PAS	Included
	Community alcohol treatment	NDTMS	Included
	Prescribing for alcohol dependence	CHIA	Sufficiently complete for one pathway only
	Referral to recovery services	ASNS	Omitted due to amount of missing data

Table 3. Summary of baseline and outcome data (continued)

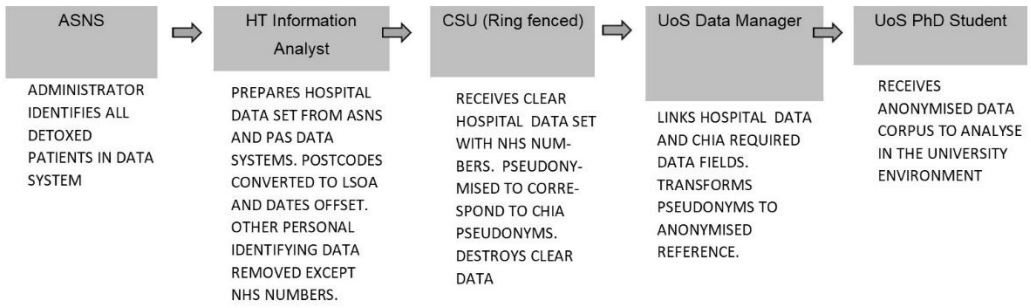
Outcomes:	Further detoxification episodes	ASNS	
	Admissions to hospitals no. and days	PAS/CHIA	CHIA omitted due to changes in CHIA data
	ED Attendances	PAS/CHIA	CHIA omitted due to changes in CHIA data
	Deaths	PAS/CHIA	Data used in linked dataset as available in both
	New co-morbidities	PAS/CHIA	PAS omitted due to amount of missing
	Prescribing thiamine and Vitamin B	CHIA	Sufficiently complete for one pathway
	Successful community alcohol treatment episodes	NDTMS	Included
(Grey- data that were not used in the analysis)		**Source**	**Reason for omitting data**

3.6.3 Data collection

Following ethical approval on 28th June 2016, three data sharing agreements were set up: one between the University and the Hospital Trust, one between the hospital trust and CHIA, and the final one between the University and Care and Health Information Analytics (CHIA).

A process for linking the hospital data with Care and Health Information Analytics (CHIA) was discussed and agreed with the Clinical Outcomes Research Group (CORG) at the HT and with CHIA. A formal application to CHIE Information Governance Group to request access to their data was accepted. The linkage process involved transferring the data from the HT, with NHS numbers, to a ring fenced area of the Commissioning Support Unit (CSU) (as per signed necessary documents), for it to be automatically pseudonymised and loaded into CHIA (see Figure 6 below). The relevant data were extracted by a university CLAHRC data manager with authorisation to use the CHIA system, and converted to an anonymised data set for analysis (see Figure 6 below).

Figure 6 Data linkage process for Hospital-CHIA dataset



Abbreviations

ASNS Alcohol Specialist Nurse Service
HT Hospital Trust
CSU Commissioning Support Unit
LSOA Lower Super Output Areas
CHIA Care and Health Information Analytics
UoS University of Southampton

Changes at national level to the rules around the use of healthcare data from national sources, which were implemented after the study had commenced, meant that it was not possible to access secondary care data for linkage in CHIA. Furthermore, during the time period when this linking process took place, an issue was identified with data flowing into the CHIA data system whereby healthcare records for some deceased patients who had been registered to GP practices potentially used by the BRIEF-INT group were no longer accessible after their death. This was not an issue for the EXT-INT pathway as the GP practices used a different software system. This undermined the validity of the dataset for the BRIEF-INT, as it would not be possible to identify how much data were missing. The reason for an individual deceased patient not linking to CHIA (n=75) might be because there was no recorded intervention in primary care, the interventions had been deleted, or the practice was not reporting to CHIA (80% of practices reported in this area). There were further problems identified in that gender and age were missing from the HT dataset that had been linked to the CHIA system. This meant that the planned analysis of the data would be undermined as it would not be possible to adjust for differences in key demographics when comparing the two pathways. It was decided to continue to extract the data from CHIA in order to describe service utilisation, pre and post diagnosis codes for common conditions not generally identified in the acute hospital setting, and prescribing for the EXT-INT group, which was considered to be complete unless a patient had moved area. Also, there was insufficient time available to validate the method of identification of GP consultations from the CHIA system, so these were not extracted.

As the combined CHIA-HT dataset could no longer be used to compare the pathways, a request was made to the HT to directly obtain the ASNS and PAS hospital data. It was also requested that deaths outside hospital be obtained from NHS Digital through the Trust, as we were informed this was possible; the Trust Caldicott group agreed and a minor amendment was submitted to the Health Research Authority and approved. The dataset became available in January 2018. The CHIA data was then analysed separately from the main data set in order to summarise comorbid conditions and prescribing for the EXT-INT pathway.

While developing the study protocol the possibility of linking the main dataset with NDTMS data was explored with representatives from Public Health England, but due to the limits of the confidentiality agreement between NDTMS and alcohol service users, a case-by-case linkage was not possible. However, NDTMS did agree in principle to provide aggregated summaries of treatment episodes for selected groups. A formal application to the Office of Data Release was made. Approval from the Caldicott Guardian was expected as the legal gateway was already in place, since clients had already agreed for their data to be shared with NDTMS; this was not obtained until January 2018 as there were legal issues for PHE to consider related to the purpose

of the data that were being transferred to and from PHE. The agreement was limited to patients who consented after April 2013 due to changes in the consent process at that time. A data sharing agreement was then negotiated between PHE and the university; this process took several months due to issues concerning data management and destruction (see Appendix N for the data management plan). A list of patients in each cohort with first and surname initial, DOB, gender and local authority was securely transferred from the trust to NDTMS in June 2018. The NDTMS data manager extracted the required data fields and provided aggregated data summaries to the researcher with numbers less than 5 suppressed; the final data were received on 20th September 2018. Matching was based on probabilities and was possible to match 89% (n=368) to likely matches based on the identifying patients details transferred. One limitation of the data matching process was that females are more difficult to track due to marriage (or divorce), having changed the first letter of their surname.

3.6.4 **Data restructure and cleaning**

Data restructuring and cleaning were carried out using STATA statistical software programme. The hospital data were received in the form of a number of separate Excel files: two ASNS files; admissions; ED attendances; outpatients; blood tests; and deaths. The two ASNS databases, known as Access and Illy, operated as follows: Access 2010–2013 and Illy 2014–2016. They had different structures because in 2014 data collection was aligned to national alcohol service data collection requirements. The Illy database was restructured to match the format of the Access database, and variables that were recorded differently in the databases were aligned where possible – for example, daily units and drinking days in the Illy database became weekly units to align with Access. The Access and Illy databases were combined (using Stata merge commands) to form one ASNS database.

Table 3 indicates that some of the data variables obtained (indicated in grey) were not used in the analysis, either because there was more than ten percent missing data, the data was difficult to interpret, or it was judged to be likely to be inaccurate. For example, self-reported ‘age of first alcohol use’ was recorded as zero when the patient was reportedly exposed to alcohol in the womb, and knowledge of this is not likely to be consistently available to all patients; this data field was therefore judged to be likely to be inaccurate. The remaining variables (Table 3, in black) were cleaned using logic checks and assessing outliers; as various dates were given, these could be cross checked against each other when it was logical to do so. Changes to variables and individual entries were recorded in an Excel spreadsheet.

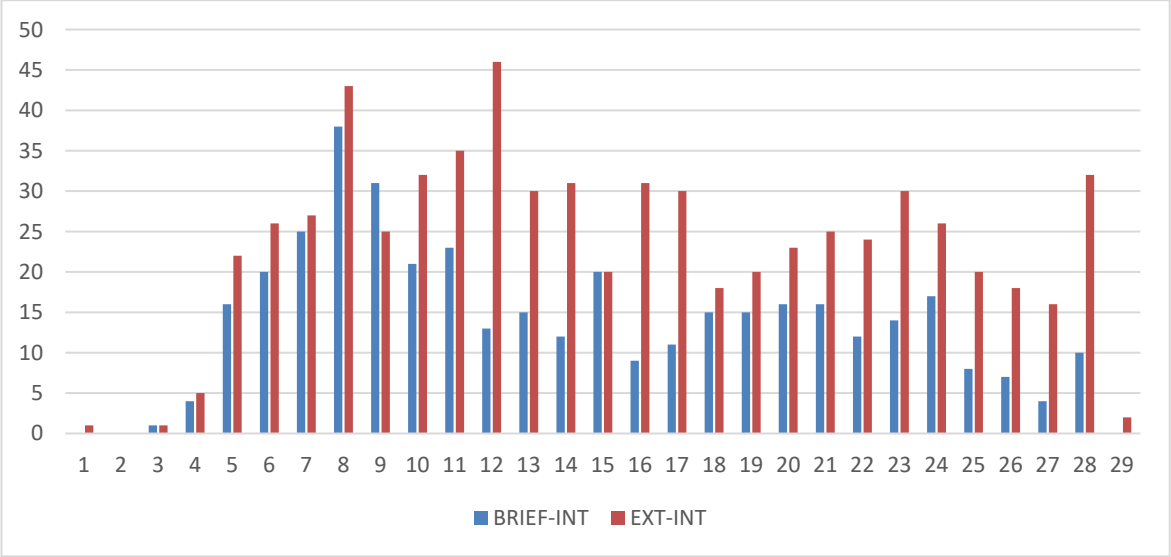
The hospital PAS system databases were assessed for completeness and outliers were examined. Admission and discharge data and outpatient attendance were considered to be complete, but ED data had a low number of complaint code entries indicating the reason for attendance. An example of an outlier was a date outside the expected date range such as '2102'. Deaths were assumed to be complete as they were from NHS Digital which would be expected to have a full record. The blood test results were restructured from a list of blood test results to separate files for each blood test identifying if there was a baseline test (within 1 week of the start date), one at 2–4 months, one at 5–7 months, and one each at 10–14 months and 22–26 months. The more complete blood results were found to be the liver function tests – ALT, Albumin and Bilirubin – as well as Platelets. These were mostly complete at baseline, but at follow up less than half the cohort had data. It was decided to use the liver function tests as baseline data, but not to use blood tests as outcomes; platelets were omitted as this count would be less clear to interpret as a baseline variable.

The selected data from the additional datasets (deaths, admissions, ED attendances and baseline liver function tests) were merged with the combined ASNS dataset using merge commands within Stata, and the merges were checked. LSOA was used to merge IMD and rural/urban classifications using the datasets downloaded from Government Statistical Services.

3.6.5 **Sample selection**

The implementation of the different pathways for the City and Town areas took place gradually. Data were requested for all detoxified patients from 2010 in order to have a full history of the service and the changes that took place over time. The number of ASNS interventions lasting over two weeks post detoxification was plotted for each three-month period, in order to understand changes to the service over time and to identify a start date for the pathway implementation (see figure 7 below). The cohort was selected from the merged database to start when the two pathways divided. In April 2015 the community services changed following a retendering process, and the hospital-based interventions other than the ASNS were brought to an end. The end of the cohort was chosen to span the period when the service provided to patients was relatively stable (April 2012 to the end of 2014). The cohort includes only those patients who had their first episode with the ASNS during this period, as those who had prior episodes would have been exposed to the extended intervention and thus give a less clear comparison.

Figure 7 ASNS interventions of over two weeks plotted in three-monthly periods from 2010



This graph shows the frequency of Alcohol Specialist Nurse Service interventions lasting more than two weeks duration for the two pathways: the hospital based service (EXT-INT) and the brief intervention with referral on (BRIEF-INT).

Numbers 1-29 indicate consecutive three month periods from the start of the service in 2010.

The following inclusion criteria were applied:

Inclusion criteria

- First detoxification event with ASNS
- Resident within the hospital catchment area at time of referral
- Referred from within the hospital

The focus of this study is the group of patients identified within the acute medical hospital setting. A relatively small group of patients referred from outside the hospital setting was excluded (n=87). Out-of-area patients were also excluded. It had been planned to exclude patients from rural areas, but as the number was very low (rural town and fringe n=11; rural village and dispersed n=3) and the data were incomplete, this was not applied in practice. It was estimated that the sample size would be roughly 500 for City and 300 for Town (allowing for the exclusion of rural areas); the final cohorts after exclusions were 352 for City and 390 for Town.

In order to summarise CHIA data related to the selected cohort the same selection criteria were used. The databases differed slightly in the number of cases, because there were thirty-two patients for whom there were no data in the linked Hospital data; this was rectified in the second hospital dataset.

3.6.6 Baseline and outcome data

The variables in the dataset were explored using summary statistics and graphs to assess the distribution and the most appropriate form of variable to be used in the statistical analysis. Continuous variables were used where possible; if a histogram showed a skewed distribution, median and Interquartile Range (IQR) replaced mean and standard deviation and the log transformed variable was considered (see Appendix H). Scales such as the AUDIT were considered to be categorical as the distribution was not continuous; for example, a maximum score of 40 was common. The variables for the main analysis are shown in table 4.

Table 4 Variables used in the analysis

Variable	Data	Type/categories	Missing data
Age band at ASNS assessment	ASNS	18-39; 40-59; 60-79; 80+	Complete
Gender	ASNS	Male; Female	Complete
Ethnicity	ASNS	White British, Other	1
Employment status	ASNS	Employed, Unemployed, Retired, Medically retired	20
Indices of deprivation	GSS	Deciles 1-5; Deciles 6-10	34
Rural/urban classification	GSS	Urban, Rural town, Rural village and dispersed	34
Area of residence (identifies pathways)	PAS	City, Town	Complete
Prior ED Attendances	PAS	Count of events for 1 and 5 years prior	Complete
Prior hospital admissions	PAS	Count of events for 1 and 5 years prior	Complete
Referral source	ASNS	Count of events for each year	Complete
Discharge diagnosis (1–6 recorded)	PAS	ICD-10 categories F, I, J, K ,R, S,T, Other	60
Liver function tests (ALT, Albumin, Bilirubin*)	PAS	Continuous	32,30, 56
AUDIT Score	ASNS	<21; 21-30; 31-39; 40 (by Interquartile range)	52
Units per week	ASNS	Log	58
Alcohol Withdrawal Scale (CIWAR)	ASNS	0-4; 5-8; 9-15; 16+ (by Interquartile range)	48
Post detox ASNS Intervention	ASNS	Outpatient, Inpatient only, Did not engage	Complete
Length of post detox ASNS intervention	ASNS	0 days; 1-14 days; 15-90 days; 90+	Complete
Detoxification (referred from hospital)	ASNS	Count of events 1 and 2 years post	Complete
ED Attendances	PAS	Count of events 1 year post	Complete
Hospital admissions	PAS	Count of events 1 year post	Complete
Deaths	NHS	Date of death	Complete

A baseline date was defined as the date detoxification started. Baseline variables represented four main types of variables that could potentially have an impact on outcomes: demographic variables, severity of alcohol dependence, admission diagnosis, and liver function tests. Process variables were created to identify the length of post detoxification intervention and the length of hospital admission. The outcome variables that were used in the analysis could be considered to be proxy measures of recovery: detoxification episodes, admissions, ED attendances, and deaths. Number of detoxifications was considered the primary outcome of interest as it is more closely related to alcohol dependence and recovery than the other events.

The City-based groups could be referred from community services into the ASNS for planned detoxification; in a few cases this could also occur for seriously ill patients in the Town group. The detoxification episodes were limited to those that were referred from within hospital departments as this would be comparable for both groups. Admissions and ED attendances were similarly limited to one general hospital. Deaths were considered to be complete inside and outside hospital. Stata programming was used to produce a count of the number of detoxification, admission and ED events within one, two, three and four years after the baseline; a variable for time to death from baseline was created. All of the cohort had follow up data for a full year, and this number reduced over years two (n= 594) to four (n=120).

As a previous study (Ponzer 2002) had found a reduction in detoxification events over a four-year period, this pattern was explored in the data in order to inform the analysis; the percentage who had at least one event (detoxification, admission, or ED attendance) was calculated by year (for those with follow up and who survived each year). It was found that the percentage who had detoxification, ED and admission events reduced every year; these findings are presented in Chapter 6. This pattern suggested that the rate of events was decreasing over time, which had implications for the analysis; count regression models assume a constant rate. A decision was made to focus on the outcomes within the first year, which was complete for all of the cohort; detoxifications within year two would also be explored, as this variable was considered to be the primary outcome of interest.

Engagement in treatment is highly relevant to understanding the process of change in recovery; those who voluntarily engage in post detoxification interventions could be considered to be ‘treatment seeking’, an important stage in the process highlighted in the literature review. Patterns of engagement with the ASNS were explored in the data, and three groups were identified: those who did not accept help, those who engaged as outpatients, and those who engaged but only during an inpatient stay. A variable was created identifying these three groups. CHIA data was summarised to indicate the level of prescribing for those in the EXT-INT pathway

twelve weeks and two years after detoxification. The National Drug Treatment and Monitoring System (NDTMS) provided aggregate data comparing the two groups (post April 2013) in terms of the number and type of episodes of alcohol treatment service use, length of treatment, and outcome at discharge.

3.6.7 Data analysis

Data were analysed using STATA statistical software. Referral sources, residence, primary admission and discharge diagnosis and utilisation of the ASNS were described using summary statistics and charts; CHIA data regarding primary care diagnosis and prescribing were also summarised. The outcomes (deaths, additional detoxes, admissions and ED attendances) were described as binary outcomes (the event took place or not) for each of the four years follow up time, using summary statistics rather than counts where relevant.

Baseline characteristics were described in the two groups using standard statistics; depending on the nature of the variable this was mean and standard deviation, or median and inter-quartile range for continuous variables, and percentages for categorical variables. The differences between the groups were compared using standard two group comparison tests: t-tests for normally distributed continuous variables, Mann Whitney test for skewed data, and chi-squared tests for categorical variables.

Univariate and multivariate regression analyses were used to relate baseline exposure with the outcomes. Multivariate approaches allowed adjustment for baseline differences: logistic regression for the binary engagement variable; negative binomial for count data; and time to event for survival analysis (Kaplan Meier, Cox proportional hazards PH model). The best fitting model for the count variables was found to be the negative binomial after comparison with the Poisson model; a zero inflated model was excluded as there was no rationale to include one. Covariance was explored using Spearman's correlation coefficient for the alcohol related variables, as these were considered to potentially have a high degree of correlation; as the correlation was not strong (see Table 5) all three variables were included in the regression analysis.

Table 5 Spearman's correlation coefficient for alcohol related variables

	AUDIT	WEEKLY UNITS	CIWAR
	N=690 (52 missing)	N=685 (57 missing)	N= 694 (48 missing)
AUDIT		n=662 0.5491 P=0.000***	n=675 0.4240 P=0.000***
WEEKLY UNITS			n=665 0.3672 P=0.000***

Univariate analysis of all baseline variables identified variables to be included in the first multivariate analysis, which aimed to identify the baseline variables that best predicted the outcomes; variables were included if the P value was less than 0.1. The Backwards Elimination method was employed to find the best fitting model, and the Likelihood Ratio Test was used to compare nested models within this process. In order to compare the outcomes for the two pathways a further regression was carried out for each of the count variables and time to death. Potential confounding factors were identified as those that were significantly different at baseline for the two groups and which were significantly related to outcome in the univariate analysis; age and gender were also included, whether or not an association or baseline difference was identified. Variables were added one by one (forwards selection) to a multivariate regression to explore the impact of baseline differences on the outcomes. The Intervention variable was added first as this had the most significance to the study aims, and following this, demographic variables were added to control for baseline differences in the groups. Finally, the alcohol related variables were added, starting with the AUDIT as this was the strongest measure of dependence available.

The Hosmer-Lemeshow test was used to assess acceptable model fit for the logistical regression model. For the negative binomial model, Anscombe's residuals were plotted against expected values in order to assess the impact of outliers on the model, and a Q-Q plot was used to assess whether the assumptions of the model were met. For the Cox's proportional risk model the test of the proportional hazard assumption and proportional hazard plots of each contributing variable (holding other variables constant) were used to assess model fit.

3.7 Summary

This study used a pragmatic mixed methods approach: a thematic analysis of semi-structured interviews with patient participants (N=24), and a retrospective analysis of routinely collected data (N=742). The 24 recruited participants gave in-depth accounts of the changes they were making in the first few weeks following detoxification, and for half of the participants there was a rich description of changes over time, up to one year. Routine data were prepared and analysed primarily from a hospital dataset, and relevant additional data for the cohort were obtained from CHIA and NDTMS. The following outcomes were compared using regression analysis; time to death, further detoxification events, readmissions to hospital and Emergency Department attendances; predictive factors for these outcomes were also explored.

Chapter 4: Qualitative Findings

4.1 Introduction

The qualitative findings describe the process of change in early recovery from alcohol dependence from the perspective of the participants in the study; factors seen as facilitating or hindering this process are also identified from their accounts. First, the number of participants at each stage and the demographic characteristics of the participants are described. Past experiences of services, sources of support used during the research study and the qualities of helpful relationships are then described, since they form important aspects of the context in which post detoxification changes took place. The themes representing the analysis are then presented. The first theme describes a process of "Changing direction", representing a shift from heavy drinking to an openness to change; the second, third and fourth themes reflect active changes made after detoxification and had three overall purposes of "Not drinking", "Day to day living" and "Facing problems". In theme 5 an account of the hindrances or barriers to the recovery process is presented. This chapter will end with a summary of the key points arising from this analysis.

As described in section 3.5.6, complete coding was applied to the data. This resulted in five groups of codes relevant to the research questions: turning points; the process of active change (see Table 2, section 3.5.6); factors supporting change; factors hindering change; and sources of support. The central themes (2-4) were developed from reflection on the main purposes of the changes people were reporting after detoxification. Initially it was planned to focus on post detoxification change, but it was clear that the experiences of participants from the point of crisis to completion of detoxification were important for understanding the changes that followed; thus Theme 1 `changing direction' was included to capture this aspect. As factors supporting change related directly to themes 1-4 these were integrated into each theme. Barriers to change were presented separately (Theme 5), as the barriers identified usually related to more than one of the themes 1-4. The later interviews built on these codes and themes, and were used to illustrate how change evolved over time in relation to themes 2-4 in particular.

Participants will be referred to by their participant numbers in the study (P01–P24). Each quote from initial interviews will give the participant number only (e.g. P3); quotes from follow-up interviews will also indicate the number of months after detoxification (e.g. P3, 3 months).

4.2 Participant characteristics at baseline, six months and one year

Twenty-four participants were interviewed a week after detoxification or as soon after this as possible. Twelve participants attended follow-up appointments at six months, eight of whom also had interviews at three months. Three participants completed the final interviews at one year. Half of the participants recruited to the study lived in the inner city area and were eligible to be followed up by the Alcohol Specialist Nurse Service as well as access community services, while the other participants lived in the surrounding towns and were referred on to community alcohol services following detoxification. Table 6 below summarises the demographics, and Table 7 gives demographic characteristics for each participant and indicates whether follow-up interviews were attended and previous episodes of detoxification with the ASNS.

Table 6 Summary of longitudinal study participant demographics

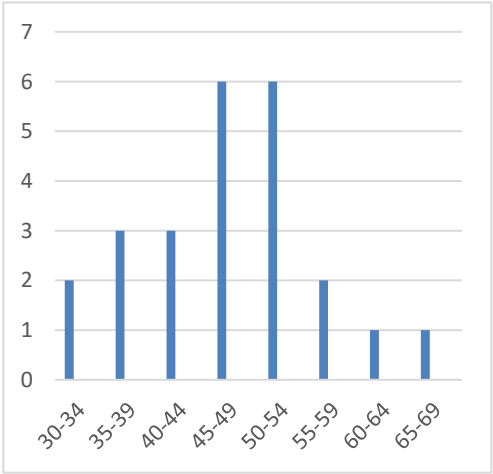
Characteristic		City	Town	Age Groups
Gender	**Male**	7	6	
	Female	5	6	
Marital status	**Single**	2	4	
	Married	2	5	
	In a partnership	7	2	
	Widowed	1	1	
Living situation	**Living alone**	3	4	
	Living with others	9	8	
Employment	**Employed**	3	6	
	Unemployed	8	4	
	Retired	1	2	

Table 7 Study participant details

ID	Area	Gender	Age Group	Employment	Relationship	Number of prior detoxes	3–6 month follow up	6–9 month follow up	12 month follow up
P1	Town	M	35-44	Unemployed	single	<6	Y	Y	
P2	Town	F	45-54	Unemployed	single	6+			
P3	Town	F	35-44	Employed	married	0	Y	Y	
P4	City	M	25-34	Unemployed	partner	<6			
P5	Town	M	45-54	Employed	partner	6+			
P6	City	F	45-54	Unemployed	single	6+	Y	Y	
P7	City	M	45-54	Unemployed	single	0	Y	Y	
P8	Town	F	45-54	Unemployed	partner	6+			
P9	City	M	55-64	Retired	partner	<6		Y	
P10	City	M	45-50	Unemployed	partner	0			
P11	City	M	35-44	Employed	partner	0	Y	Y	Y
P12	Town	M	45-54	Employed	single	6+	Y	Y	
P13	Town	M	35-44	Employed	single	0			
P14	Town	F	55-64	Retired	married	0	Y	Y	
P15	City	M	35-40	Employed	partner	0		Y	
P16	City	F	55-64	Employed	married	<6			
P17	City	F	45-54	Unemployed	widowed	<6			
P18	Town	M	45-54	Employed	married	0	Y	Y	Y
P19	Town	M	65-74	Unemployed	married	0			
P20	City	F	25-34	Employed	boyfriend	0			
P21	City	F	45-54	Unemployed	married	<6	Y	Y	
P22	City	M	35-44	Unemployed	partner	0			
P23	Town	F	45-54	Unemployed	widowed	0			
P24	Town	F	45-54	Employed	separated	0		Y	y

All participants except one were white British. Just under half the sample were female. A total of nine participants were employed (three in the city and six in the surrounding towns), several of whom were self-employed. Two participants in the town areas and one in the city described themselves as retired. The remaining participants were unemployed, and none were in education at the first interview. The majority of participants were in a relationship, and lived with partners or family.

All participants except one had started drinking before the age of eighteen. The majority did not report developing a drinking problem until at least ten years after they had started drinking, and often the drinking problem was not recognised until several decades later. The length of time before participants recognised that they had a problem covered a wide range from one year to thirty-one years. By the time of contact with the ASNS almost all the participants reported drinking twenty to forty units of alcohol daily, or more in a few cases. Two participants reported

that they drank slightly less, between fourteen and eighteen units daily. One participant had a history of opiate dependence; they had been in recovery for a number of years and then developed an alcohol problem, which escalated within a few months to drinking around eighty units every day.

Just over half the participants described prior detoxification episodes with the ASNS, while eleven reported no previous contact with the service. Five people said they had experienced more than six detoxification episodes with the ASNS over the six years since the service started. All but five of the participants had encountered other alcohol treatment services at some point in the past, and many had been to AA or Narcotics Anonymous groups.

Half the participants disclosed that they had diagnosed mental health issues using the following diagnostic terms: depression, anxiety, eating disorder, post-traumatic stress disorder or post-natal depression. Physical health conditions disclosed by participants included: hypotension, cardiac diseases, stroke, arthritis, spondylitis, cancer, liver disease, pancreatitis, epilepsy, and degenerative disc disease following a back injury. Alcohol poisoning and withdrawal syndrome often led to contact with the hospital.

Participants followed up at six months were five females and seven males, and were more likely to be employed and in a relationship than the original group. The age range was less varied at follow-up, all participants being aged between thirty-five and sixty-four. Those who were followed up at twelve months (P11, P18 and P24) were all employed, two were in stable marriages and one was separated.

4.3 Participants use of services and other supports

A wide range of supportive factors were linked to the changes people made during their first year of recovery; these will be explored further in relation to each theme. Participants drew on their past experiences, support from close family members, peer groups, alcohol services and individual therapy. The availability of support was highlighted; it was important to be able to access help quickly, whenever it was needed.

Some participants described positive past experiences of seeking help, especially in relation to AA, ASNS, Acceptance and Commitment Therapy (ACT) groups, residential treatment and individual therapy, and a few had very supportive GPs. What was learnt from contact with these services and groups was often linked to the changes they made over the period of the study.

4.3.1 Use of services during the study

For the participants who attended follow-up appointments, it was possible to build a picture of the services and peer groups they accessed during this post detoxification period. Table 8 gives an overview; the heavy shaded areas show where engagement was longer than just an assessment, or group sessions were attended regularly.

Table 8 Use of services and peer groups by participants during the study period

TOWN PATHWAY	Community Alcohol Keyworker	Alcohol Specialist Nurses	Structured Day or Residential Programme	Alcoholics Anonymous	Other peer or facilitated groups	Therapist or counsellor
P1						
P3						
P12						
P14						
P18						
P24						
CITY PATHWAY						
P6						
P7						
P9						
P11						
P15						
P21						

Key: dark shaded = engaged with intervention light shaded = brief or sporadic contact

Community alcohol services were accessed on a few occasions, mainly consisting of an assessment and referral on to groups. The Alcohol Specialist Nurses were available to city-based participants after detoxification, and this service was used in different ways: some attended regularly as outpatients after detoxification (P11, P15, P6), while others accessed the nurse service directly during a later crisis or when seeking detoxification again (P9, P6, P21). One town-based participant was given a few extra follow-up sessions with the ASNS to establish medication, demonstrating how the pathways were sometimes flexibly applied. Access to residential treatment after detoxification was only possible in one case where it was self-funded, and one other participant was participating in a structured day programme in the city. Alcoholics Anonymous was regularly attended by five participants, and three participants engaged with other peer or facilitated groups. Psychological therapy was accessed by one person through occupational health at work, and another was seen by a counsellor for twelve sessions in the community alcohol service. Individual family members also paid a significant role in supporting

recovery for some individuals. Only one participant did not seek any kind of post-detoxification support for recovery from alcohol dependence beyond her own family and personal resources (P14).

4.4 Theme 1: Changing direction

For some participants this was the first time they had wanted to change their drinking, while for others it was a chance to get back on track with their recovery, often after fluctuating between periods of recovery and periods of relapse. Contact with the hospital almost always followed a crisis event; for those whom this was their first contact with the ASNS, descriptions of the nurses' intervention were often powerful and considered to have an impact on change.

4.4.1 How drinking became a problem

Most participants gave an account of how their drinking problem had developed. Some participants had been part of a heavy drinking culture, which was seen as playing a role in increasing their drinking. Most participants reported that their problem started or became worse because they were using alcohol to cope with another issue.

> *"I started getting panic attacks and anxiety attacks, and my husband … got me to realise that if I drink alcohol it would stop the panic and the feelings, and as vulnerable as I was I sort of thought, well, ok, I'll try that and it worked, and that was about it for eight years"* (P21)

Others had difficulty with pain and/or sleep disturbances*: "There are two reason I drank, relaxing and sleeping, because that's the only way I could do it"* (P18). Bereavement was a common issue perceived as contributing to drinking, and two participants reported using alcohol to cope with a family member's serious illness:

> *"I just went to the funeral, and I think that was it, about mid-twenties I just totally, I just didn't care about things and got drunk all the time"* (P10)

Domestic violence had been an issue for three women. Two male participants talked about the pain of not being able to see their children following a relationship breakup. Other issues described as influencing drinking included bullying, betrayal, work and financial stress.

Most participants described drinking more and more over time: *"I began to drink more and more, one drink is never enough and then you need two and then it escalates"* (P14). Sometimes they

were drinking too much but had not admitted it to themselves or others, despite many losses such as relationship breakups and losing jobs.

4.4.2 Reaching a crisis point

Several participants described their experiences of the physical, mental or social crisis leading to admission or ED contact; for example:

> *"I was really scared for myself, I kind of knew, my nose was bleeding like fairly consistently on and off throughout the day and I kind of knew it was getting worse and worse and worse, something was going on"* (P22)

> *"I hit her and I got arrested, she moved out the house with our four children for four weeks and I carried on drinking for three or four days to a dangerous state"* (P15)

> *"It's just them thoughts (suicidal thoughts) … I did stop myself, I did ring up the ambulance … so the paramedics came and basically I was quite an emotional wreck, that's when I wanted to get the help, because … I just don't want to live my life like that, you know"* (P04)

These examples suggest that events leading to contact with the hospital were often intensely negative experiences, and this was common. For those who were referred from outpatients the crisis could be less acute, for example, the need for an operation meant they had to stop drinking.

4.4.3 Straight-talking care

While the crisis itself could play a role in motivating patients to change, most patients went on to describe the impact of their experiences with the Alcohol Specialist Nurses and its contribution to their desire and ability to change. A number of relationship qualities were described as important by patients, and these seemed to contribute to a sense of care. It was common for participants to comment that the nurses were empathic and non-judgmental: *"they were empathetic, they were kind of not judgemental"* (P14); *"she was coming out with things and I was, yeah, how do you know that?"* (P16). Some participants spoke broadly about the impact of feeling cared for: *"when you're down on your luck, if somebody kind of cares for you, then often that's all you need"* (P14). Others felt this experience of care had influenced their desire to change: *"I felt more like people cared, they wanted to make this right and I wanted to make it right"* (P13).

A non-judgemental approach was particularly valued when participants had presented to the service a number of times:

> *"I would imagine that they see a lot of their people time and time again, and it must be hard to kind of think, oh, for Christ's sake, we've been here before and now we're here again, and there was none of that … you feel that they care for you"* (P14)

Another aspect of care that was commonly spoken about was the importance of not being rushed: *"they don't seem like they're in a rush to get you out"* (P17). The following example shows how this was often compared to other experiences or expectations.

> *"Instead of it just being regimental, like when you go and see the nurse and they go pump pump, alright next, your appointment wasn't just here's your tablets piss off, it was how are you doing?"* (P13)

Some participants emphasised that the caring approach they experienced went alongside directness:

> *"I respect her quite a lot, she's very down to the point, very straight, but very nice with it. Not nice enough that she'd go, oh it's ok, everything is going to be alright, no, that's not (nurse's name). She is direct"* (P25)

4.4.4 **Feedback**

This direct approach was often used when giving feedback and advice about health and the consequences of drinking. For a few this could be bad news about the seriousness of their health condition, which may have progressed beyond a point where stopping drinking could reverse the condition. However, many participants described receiving feedback about their physical health as a helpful motivator for change. This could be very basic feedback about visible signs of health, for example *"saying you're looking much better and you're doing really well, which I did"* (P8), or more detailed results of tests, often related to liver damage as in the following example:

> *"I was brought in and one of the alcohol nurses came up and said that with the blood tests they had done they realised that, is it the Gami … it was 1000, extremely high, and they said would you like help to stop, and I said I'd love some help to stop, I'd love to live a normal life again and not rely on it"* (P21)

In this example there is a sense that the frank feedback played a role in encouraging recovery, and this is made more explicit in the following case:

"They were very concerned and basically said, you know, if you carry on drinking you're gonna kill yourself …,and that was the moment that I thought, oh dear, this has got to stop, I am gonna die, so that was the revelation, really, of getting better, a wakeup call" (P24)

4.4.5 **Opening up to change**

Having time available and feeling cared for created a context in which participants could talk about the challenges facing them:

"You can open up to them and talk to them as if you're talking to someone that you've known for years, sort of thing" (P17)

One participant found that being able to open up to the nurse allowed him to admit his own part in his problem to himself, and to see that there was support available to help him to do something about it:

"(The nurse) just sat me in the chair and went, right … just spit it out, what's going on here … and I felt comfortable for the first time ever to just sit there and spill … I got to talk about it properly, and I got to realise that there was a real web of help out there, and it was there for you … that is the only time I've really thought I can crack this now" (P13)

For the following participant, it was the first time they admitted to an alcohol problem, and an affirming, almost light-hearted approach from the nurses led to a sense of relief:

"When I went into the alcohol room in the nurses bit after being in A&E I just said, look, I'm an alcoholic, I've got a problem, and they all sort of like virtually congratulated me on saying it, and it was a bit of a weight off my shoulders, 'cos I was always embarrassed, I don't want to be known as an alcoholic and stuff" (P15)

This participant highlights the social stigma attached to being considered by others to be an alcoholic, and how fear of judgement could have been a barrier to admitting to a problem in the past. In the context of the nurses' congratulatory response, opening up is not experienced as shaming but rather as a relief.

Opening up to the nurses could also be important to those with a number of past periods of recovery, in order to identify and explore some of the underlying factors that had contributed to relapses:

"Having met them and feeling like, right, I can talk to you, you get where I'm coming from,

you know, I talked really candidly to (the nurse) about some of the challenges at work, how do I handle that … you know, kind of, it felt like a bit of a tipping point" (P3)

4.4.6 The gap after detoxification

The support of the nurses could often bridge a gap immediately after detoxification when participants felt they needed support, and this could lead to engagement with other relevant services:

"They offer a good support network, they give you all the information, what I like I think about their service is they give you the follow up, so you know you're not left out there on your own … you need that support, you need to have that stuff, the package of all the information and all the numbers at your fingertips" (P21)

This is in contrast to the experience of many of the participants who could not access the ASNS post detoxification:

"Apart from seeing (social worker's name), no, there's still nothing else … I was still in my flat, you can't, I say you can't go to (community alcohol and drug service name), I can't access here (ASNS) unless I'm an inpatient, which isn't much fun" (P1)

"There seemed to be this huge gaping hole that what do you do …. when I really needed the help I did feel it wasn't there for someone who was ill … I felt a little bit redundant, I couldn't go anywhere" (P24)

These examples demonstrate that those who did not access the ASNS post detoxification often felt the need for more support, and their perception was that help was scarce or not available to them.

4.5 Theme 2: Not drinking

Table 9 Theme 2 summary

Setting Out (first interviews)	Making Progress (interviews at 3-6 months)	Ongoing Recovery (interviews at 12 months)
1.Adjusting to abstinence: *"I cannot have alcohol pass my lips"*		
Adopting abstinence: - adopts abstinence goal one day at a time - chooses who to tell about drinking problem and abstinence - relief and benefits of not drinking felt in first few weeks - taking medication to reduce craving	**Uncertainty of ongoing abstinence:** - one day at a time approach continues - communicates progress to others without promising abstinence - concerned about reducing medication too early - avoiding or overcoming relapse	**Maintaining commitment to abstinence:** - uses memories of past drinking as reminder of need for ongoing abstinence - can adopt "alcoholic" or "non-drinker" label - communicates long-term commitment to abstinence - feels ready to stop craving medication
2. Negotiating contact with alcohol: *"It's not the alcohol that I wanted, it's the social environment"*		
Contact with alcohol avoided: - no alcohol at home - avoids social drinking situations - avoids shops - can temporarily give away access to money - plans for family drinking situations	**Attends social drinking events:** - learns to cope with some social situations involving alcohol - often avoids heavy drinking situations or leaves early - or social drinking situations not an important part of social life	**Maintained personal approach to situations involving alcohol:** - no additional changes
3. Aware of thoughts and triggers: *"It's only a natural thought"*		
Aware of thoughts about drinking and external triggers: - notices thoughts of wanting a drink - aware of choice and reasons not to drink and able to make this choice - sometimes seeks support or attends meetings if wants to drink	**Aware of thoughts and internal triggers:** - notices thoughts about drinking and lets them pass quickly - vigilant of overconfidence: *"thinking I'm ok now"* - aware of physical and mental states that trigger thoughts and acts to reduce these	**Reduced attention to alcohol:** - less desire to drink - less thoughts about drinking
4. Participating in peer groups: *"Meeting others in the same boat"*		
Attends a variety of peer groups: - AA and other peer support groups embraced when there is commonality of experiences with others - opening up in groups	**Balancing recovery groups and living:** - using group support - often chooses to reduce attendance at meetings to give way for everyday life - makes own choices in face of contrary advise and uncertainty about outcome	**Confident in personal decisions about ongoing recovery support:** - continues or stops attendance based on own decision

4.5.1 **Adjusting to abstinence**

When setting out on the recovery journey all but one participant had already come to a decision to adopt a goal of abstinence. It was common for the participants to state that drinking would quickly escalate once they re-started, and they would have little control over the outcome: *"I cannot have alcohol pass my lips again, and I get that now"* (P23). Another participant provides a typical example:

> *"I'd like to have had a glass of wine with my meal, but unfortunately I can't risk that sort of thing in my life where a glass of wine can end up to being, just have a bottle of wine"* (P15)

Most participants spoke about the need for abstinence based on their experience of attempting to stop drinking, but experiences of treatment could also reinforce the need for abstinence. People had often picked up helpful slogans that they would repeat to themselves to support their goal of abstinence; the most common was "just for today". This slogan appears to function to break down the goal of lifelong abstinence to manageable steps:

> *"There's this whole concept which I find very useful of just for today, staying sober for today … you can do what you like tomorrow"* (P7)

For some participants in the first interviews there had been no desire for alcohol since detoxification. Some had questioned whether the medication they were taking, such as Acamprosate, was playing a part in reducing the urge to drink: *"I've no idea whether it works or not … it might just be all in my head, but it's working for me"* (P3). Other participants mentioned the difficulty of getting through the first few weeks: *"I just find that obviously the first couple of weeks was difficult"* (P21). Two participants had started drinking again by the time of our first meeting, highlighting the vulnerability to early relapse among some participants. This person had already been back to the ASNS for help:

> "*I went in and I was straight down the line, I said, look, I failed, I failed … so at the moment I'm feeling very embarrassed, very raw and a sort of inner anger with myself, that's the truth*" (P9)

For some participants, telling others who were close to them about their drinking problem and their decision to be abstinent was an important step. Being judged was a common fear, and therefore decisions about who to tell were made carefully, as the following example demonstrates:

"It's a very taboo subject still … very shameful, very taboo, so the fact that I'm, I'm like telling people, I obviously don't talk about it at work because they don't know, but friends and family it's not a problem at all, I don't hide it from them" (P24)

In this example the participant highlights the feeling of shame about having a drinking problem that was also described by others in the study. In this case the participant found that friends and family did not judge her as she feared, but rather were relieved to find out that she was dealing with her problem. She also made a decision to tell only those people she felt close to, which was the case for others as well.

Often beneficial consequences were attributed to being free from drinking in the first few weeks, for example: "*my life is so much better when I'm not drinking*" (P18). Improvements in health since stopping drinking were making a big difference to some participants:

"*I feel so much better going to work every Monday now. I've got strength, I've been eating all week, not drinking, not sweating at work or anything*" (P10)

For another participant, feeling better was put down to antidepressants being more effective now he had stopped drinking:

"*They must be working now, because I do feel so much better now in myself. For three years I couldn't understand why they weren't working. Bottle and a half of vodka is probably the good reason*" (P11)

At six months, five of the twelve participants followed up had maintained abstinence for the complete period, half had experienced relapse, and one participant had started to drink in a controlled way. The initial relief of stopping drinking that was experienced in the first few weeks became less prominent as time went on. The slogan "just for today" was still spoken about as highly important by the majority of participants:

"The enormity of never drinking again is too large to comprehend, you know, so if you just keep it for the twenty-four hours that you're in, it's a manageable thing" (P18, 6 months)

One participants explained how the uncertainty of maintaining abstinence could be difficult to convey to others:

"I've been down that road before, of giving promises and never fulfilling them, and it's just not a road that you go down. You just have to be absolutely honest and say, I don't know what's gonna happen , so if you don't want to meet up with me for a cup of tea that's fine, but, um, I'll do the best I can" (P24, 6 months)

Often the goal of abstinence remained regardless of relapses. One participant had managed to self-detox, motivated by his wish to attend a funeral: *"I just stopped suddenly and went through a rough three days*" (P7, 3 months). Another participant had reduced the amount she was drinking, aiming to stop again completely. Those who had not managed to stop or reduce by themselves were often seeking another detoxification, and could end up back in hospital in crisis:

> *"I was continually drinking because of the panic of fitting. I didn't want to come to hospital, I tried to get hold of my GP which is pretty difficult … by the time the appointment came around I was physically just way too shaky, I couldn't have got on the bus … it was getting worse and worse, it had really started to hurt, so I phoned 111"* (P1, 3 months)

This example shows how difficult some participants found it to break out of a relapse once it had taken hold; getting help could be difficult, and the situation quickly escalated to require an emergency admission to hospital.

At twelve-month interviews the three participants who took part had all maintained complete abstinence. The interviews were an opportunity to reflect on their distance travelled:

> "*I find it unbelievable that next week, which is [date], which was the day when I went into hospital and the journey began, so to speak, I find it unbelievable that I'm sitting here, happy, healthy*" (P24, 12 months)

In their final interviews each participant made a decisive statement about how they labelled their problem. For one the label of alcoholic was fully adopted: "*I'm an alcoholic, it's as simple as that*" (P18, 12 months). For another the term "non-drinker" felt more comfortable:

> *"I don't label myself as an alcoholic, even though I am, but I'm a recovering ... I class myself as a non-drinker, although I know in medical terms I'm an alcoholic. If I pick up again then I'll be right back where I was, but it's such a strong word, it's appropriate to be on your, you know, like your medical records, but I don't like the word, so I class myself as a non-drinker"* (P11, 12 months)

For the final participant the labels no longer seemed important: "*I'm starting to live my life like I used to, like a person rather than someone who is recovering*" (P24, 12 months).

A year after detoxification it was still important to recognise the possibility of relapse and to remember how things had been in the past:

> *"I'm always wary of being too complacent because I am still in recovery. The only thing between me and having a drink is me, really"* (P24, 12 months)

"I'm fearful of picking up a drink, fearful, because I don't want to lose what I've got" (P18, 12 months)

The comparison between now and then could be helpful: *"it helps me to remember how I was and where I am now"* (P11, 12 months). Although these participants were certain of their own decision to continue with abstinence, explaining the need for abstinence to others could still be a challenge. One participant had experienced some unwanted questioning from friends about when he would start drinking again, and his response reflects his irritation:

"There's a handful of them that are, well, how long are you not gonna be drinking for then, you are going to drink again, aren't you? No, doesn't work that way … It's pretty much a life thing. Oh, oh ok then" (P11, 12 months)

4.5.2 Negotiating contact with alcohol

Several participants spoke about the practical strategies they employed to avoid coming into contact with alcohol in the first few weeks after detoxification. Some kept no alcohol in the home or threw it out: "*I've got no alcohol in the house, I actually tipped it when I came out*" (P15). Others avoided heavy drinking situations such as Christmas work parties:

"*I just avoided them, you know, rather than going and trying to, you know, explain to everybody why no, I really don't want a drink ... I kind of just thought, you know, it's easier just not to be in that environment*" (P3)

Another participant felt there were times when she needed to avoid all the places where she could buy alcohol, which meant staying in until the shops closed: "*I sat at the piano till the shops close, that's how I'm coping, I just played my head off, poor neighbours"* (P23). Another participant gave her bankcard to her husband to prevent her from buying alcohol in the early stages (P14).

Participants also spoke of practical strategies they employed to join in with family situations involving alcohol. This could involve deciding on what alternative drink to have and communicating this to family members who knew about the drinking problem: "*Dad … I've got to abstain completely, what you can get me is some nice Perrier or something"* (P23). Several family members volunteered to abstain from drinking in support of the participant, but while this was seen as a supportive gesture it was not viewed as necessary.

At three- and six-month interviews some participants continued to avoid social situations where people were drinking very heavily. Generally participants had found they could cope well with social situations involving alcohol:

> "*I've started going out now with friends and the family, and what I thought was gonna be really difficult is actually not that hard"* (P11, 3 months)

> *"I spent 50p, blackcurrant and soda, I was there for three hours, I was up singing, dancing, did have a game of pool, and great, didn't get in till six"* (P6, 3 months)

In this last case socialising around alcohol was counter to advice: *"I'm not supposed to do that"* (P6, 3 months). Commonly participants might leave a situation once people started to become intoxicated: *"I will go for probably an hour and then I'll quietly slip away"* (P24, 6 months).

There were no significant changes at twelve months in how people described socialising. One participant reflected on what was now an established pattern of socialising without drinking:

> *"I'm strong enough now to realise it's not the alcohol that I wanted, it's the social environment on the Friday, when you've got, you know, a pub full of builders and everyone's having a laugh, it's that that's intoxicating, not the beer, and you know, one or two soft drinks, I've got what I needed, I can then go home"* (P11, 12 months)

4.5.3 **Aware of thoughts and triggers**

Thinking about drinking was often considered a potential trigger for relapse. Participants described the importance of being aware of these patterns of thinking which, if acted on, would lead to an inevitable return to intense drinking. The following examples demonstrate how two participants described being aware of their thoughts of drinking:

> *"I'm more aware now of just how prevalent alcohol is in our lives, in advertising, in shops, everywhere … subconsciously maybe, constant messages don't help, but you know, consciously I'm aware of it and I can notice it and pause, if you like, and see it for what it is, not be going onto autopilot, hooked onto it and off, so that's helped as well, that whole concept of just a pause before you act"* (P7)

> *"My mate invited me round for a beer and that, and for a split second I think, oh, I'd love to do that … you've got this, like, good cop, bad cop, the saint and the devil are there, and the other ones there going, yeah, do it, and it's only a natural thought, it's a natural thought … it's a natural thing, but it's learning to deal with that, learning to accept it and learning to think like that's a test"* (P15)

In both examples the participants were aware of the context in which the thoughts about drinking were triggered in everyday situations. In one case there was a reference to the powerful advertising surrounding alcohol, while the other was invited for a drink with a friend. Both participants went on to describe their thoughts in a way that created distance from the thoughts and seemed to diminish their power. P15 used the metaphors "good cop, bad cop" and "saint and devil" to convey his experience of conflicting thoughts about drinking, and seemed to be able to accept, rather than fight with, the thoughts when he stated "it's only natural". P7 saw his thought for what it was (just a thought) and described how he could avoid acting on his habitual patterns (going on autopilot) and pause before acting. P15 implied he also needed to resist acting on the thought when he described thinking of it as a test.

As time progressed in recovery participants spoke increasingly about occasions when they noticed their thoughts about drinking. It was common for them to describe the need to be vigilant of these thoughts: "*I am keeping myself in check all the time"* (P24, 6 months). For some the way to cope with the thought might be simply letting it pass:

> *"It's psychologically just getting through that fifteen seconds of telling yourself it's going to pass, and then it has and you're fine"* (P7, 3 months)

Thoughts about drinking could arise in a number of situations, or seemingly *"out of nowhere"* (P7, 3 months); mood states or anxiety could be a trigger, but so could routines, hunger or loneliness. Becoming more aware of these thoughts and associated physical or emotional states could lead to alternative actions:

> *"I wasn't, 'Oh God, I really want to go and get a drink', but the notion would come into my head, and I actually sort of stopped and thought, 'Go and eat first and have a drink of tea, water, whatever, have a sandwich and some of that', and then it did, it did subside"* (P6, 3 months)

As time progressed without drinking, the most commonly identified relapse trigger was for a participant to think they might be ok now and be able to control their drinking: *"I think, oh well, yeah, must be better now, I could ... [have a drink]"* (P11). In the following example the person has previous experience of falling in the same trap:

> *"It's always when I reached the point of being, 'Ooh I'm fine … don't need to do x y and z, don't need to avoid those situations', and then it all kind of goes horribly wrong"* (P3, 6 months)

Other people in the participants' lives might also suggest the idea that the person was no longer in the danger zone. For example, one participant felt anxious when a family member said, *"You've cracked it"* (P3, 6 months). Even a GP suggesting a reduction in medication for craving could be seen as threatening the participant's need for ongoing caution. Hearing about someone else managing to control their drinking in a group could also trigger such thoughts (P6, 3 months).

There was little desire to drink after one year of abstinence: *"just the thought, just saying the word alcohol makes me want to be sick"* (P11, 12 months); *"the desire to drink is gone"* (P18, 12 months). This participant believed that living according to the twelve steps of AA was preventing thoughts about drinking:

> *"[To the best of my ability] if I feel on edge I go back to step one … and I try and do the right thing day by day in my life, so if I think I've upset somebody I will attempt there and then to try and apologise"* (P18, 12 months)

4.5.4 **Participating in peer groups**

Participants often valued meeting and connecting with others in similar situations:

> *"These people, the AA, have helped me enormously, they're talking about all the stuff I've done"* (P23)

> *"I only attend one NA meeting a week … I like hearing other people's thoughts and what they have done and where they were … It's amazing how many little things with everyone talking, everyone is in the same boat"* (P8)

Participants were often surprised and relieved to hear others speak about experiences very similar to their own; they could often recognise patterns of thinking and behaviour similar to their own in others' accounts. This type of support was most often spoken about in relation to AA, but was also mentioned in relation to other peer groups and past residential treatment.

Some participants described how they were able to open up in group meetings. For example:

> *"The more I go to meetings … it's like therapy, talking about things that you wouldn't say to a lot of people … the more meetings you go to, the more you speak to people"* (P15)

The same participant goes on to explain that it was the mutual understanding stemming from shared experience that created the conditions where he could open up:

> "*People don't understand it, but when you're in a meeting, an AA meeting or an NA meeting, these people can relate to that because they've been in that situation*" (P15)

Having a variety of opportunities to experience the support of others who were "in the same boat" offered a path through difficult times together, rather than struggling in isolation.

For one participant regular AA attendance was central to his ongoing recovery, and played an important role when an intense compulsion to drink could occasionally arise:

> *"I went to a shop just to look at some clothes, as you walked in there were two bottles of whisky … just the obsession of whisky and drink just would not go away, and I said to myself, I'm in trouble here … I went straight to an AA meeting and shared, and the obsession then went away"* (P18, 3 months)

In this situation the desire to drink was intense and required much more intervention than simply waiting for a thought to pass. As a regular member of AA it was natural for him to go straight there to ask for help.

Once progress was made in recovery there could be a dilemma about how much to continue using support systems. By six months the only peer support groups regularly attended were AA groups. Several participants reduced their use of AA, while others stopped attending altogether. For one person the question of how much to attend AA was difficult to resolve:

> *"I do find that I have mixed feelings about how much benefit I get from the fellowship [AA] and how often I should use it. It's quite common for me now, most of the time, to go through a day without thinking of having a drink, and if I go to a meeting that puts it at the forefront of my mind again … but at the same time I know from past two experiences that when I've dropped off meetings completely, that I've been feeling fine, feeling fine, absolutely no problem, then almost immediately I'm back to where I was without even seeing it coming, not a build-up over a number of days, it's just once, just one decision in thirty seconds, and once I've made that decision then, um, I'm stuck in it until I can drag myself out of it … as I say, I'm trying to find a balance*" (P7, 6 months)

This extract demonstrates how attending AA could act as a way to maintain awareness and vigilance about relapse triggers. This awareness seemed to reduce naturally as recovery became more established, but without it the vulnerability to relapse could increase. There was also a dilemma for this participant because the meetings reminded him of drinking when it hadn't been in his mind.

At one year the participants had made clear decisions about ongoing peer group participation. Two had stopped attending meetings:

"I*t does feel like everyone's stuck where they were, and I know over-confidence is not always the best thing, but I feel like I've moved on from being stuck with what I was*" (P11, 12 months)

"*I found AA a bit like, I didn't want to wallow in it anymore*" (P24, 12 months)

Both felt that they would turn to AA if they needed help in the future:

"*I'm grateful that it's there , if I ever, that would be my first port of call if I did feel like something wasn't right, so it's not like I've left it behind or abandoned it, I just don't need it right now*" (P11, 12 months)

However, for the third participant followed up at twelve months, AA was seen as central to maintaining recovery: *"I couldn't live without AA, it's as simple as that, I couldn't live without AA, I wouldn't know what to do"* (P18, 12 months).

4.5.5 **Factors supporting change related to theme 2**

Qualities of relationships such as caring, non-judgemental, empathy, kindness were often spoken about in the context of the professional relationships that made it possible to open up; this was particularly emphasised in the first interviews. Many participants spoke about the value of being able to access help when they had a problem. For some this support came from family; for example, this participant spoke about her mother:

"I know that if I called her up and was frantic with worry about something, I know that she would come down from London straight away, you know, she'd do anything" (P20)

There were also a number of positive comments about the availability of health professionals between appointments and after discharge: *"Just as you leave, you think there might be any problems, just call, we are here"* (P11). Another participant had found this type of available support from AA: *"I think what you really need is, you need somebody on your case … you know I'm here, you can call me anytime, I think that's what you need when you're in that situation"* (P24).

Tabe 10 below identifies different aspects of support that were described as influencing the changes people made related to Theme 2. This demonstrates how a network of support is important in facilitating the process of becoming abstinent and laying down the foundations for ongoing recovery. Past learning, particularly form residential treatment episodes were important to change. It was also evident that community alcohol services did not appear to contribute to change at this stage as evidenced by participant accounts. AA featured strongly in each sub-

theme, while ACT groups were most relevant to awareness training. The ASNS interventions were considered particularly helpful in adjusting to abstinence.

Table 10 Interventions considered to be helpful related to theme 2

	Sources of support identified
1.Adjusting to abstinence	
Abstinence encouraged and reinforced over time	REHAB, AA, ASNS
Education about the brain and addiction	ASNS, REHAB, Educational groups
Medication prescribed and reviewed, liaison with GP	ASNS, GP
Feedback about physical health	ASNS
Slogan "Just for today"	ASNS, AA
Advice about common pitfalls such as overconfidence	ASNS, AA
2. Negotiating contact with alcohol	
Support to avoid contact with alcohol	Family, Friends
Support to deal with social situations involving alcohol	Family, Friends
3. Aware of thoughts and triggers	
Awareness training and practices	ACT, REHAB
Acronyms, e.g. HALT – hungry, angry, lonely, tired	AA
Suggesting reading material that identifies common patterns	AA
4. Participating in peer groups	
Sharing personal experience of recovery	AA, ACT, REHAB, ASNS Recovery worker
Lifts to meetings or being accompanied	Family, AA members
Advice about which meetings to attend or try	ASNS Recovery worker, AA members
Advice about interacting with others in recovery	AA, REHAB
AA = Alcoholics Anonymous; **ACT** = Acceptance and Commitment Therapy; **ASNS** = Alcohol Specialist Nurse Service; **CADS** = Community alcohol and drug service; **REHAB** = residential rehabilitation programme	

4.6 Theme 3: Day to day living

Table 11 Theme 3 summary

Setting Out (first interviews)	Making Progress (interviews at 3-6 months)	Ongoing Recovery (interviews at 12 months)
1. Daily routines and physical self-care: *"All the things that go out the window when you're drinking"*		
Taking pleasure in previously neglected activities: - washing and shaving - exercise - eating well - housework - driving	**Attention to health needs:** - routine established - exercise progressing - eating well - feeling well or adapting to limitations in health	**Feeling well and enjoying life:** - feeling well - enjoying life - strength to deal with problems
2. Healing close relationships: "*The memories and all the things I did were all still hanging around"*		
Appreciating family time: - enjoying time with family - able to do things for family gives satisfaction	**Rebuilding relationships:** - being available to support family members - honesty - facing people affected by behaviour when drinking	**Positive relationships with family and friends:** - improving family and friend relationships
3.Pursuing a direction in work or retirement: *"This was something I've had in the back of my mind for doing"*		
Personally meaningful direction: - enjoying getting back to work - making plans for future work or retirement projects - routine includes learning and voluntary work (if not working) - helping others	**Progress in work:** - enjoying work and study - increasing confidence at work - overcoming difficulties at work or in new learning situations	**Successful in work:** -work going well, promotion or growing business
3. Deciding on priorities: "*I'm trying to sort out … what I need to do, not what I want"*		
Making decisions based on own priorities: - making own decisions in face of various sources of advice and self-doubt - lower ambitions	**Balancing life based on my own decisions:** - making own decisions with uncertain outcome. - work-life balance - reducing attendance of recovery groups	**Living in balance:** -personal routine feels balanced and based on experience of what works

By far the most talked-about aspect of change after detoxification was getting back to what was often described as "normal life" or "day to day life". The majority of participants appeared to have recovered from the acute physical consequences of alcoholic poisoning and withdrawal for which they had attended the hospital, and they were now able to be active. For a few there were more serious or chronic physical health problems, and these participants experienced more limitations. Being able to live day to day life again could be rewarding for all the participants, especially for

those participants with immediate family and work. For those who were unemployed, and especially for those who were also single, there was more of an emphasis on creating structure, routine and trying out new activities.

4.6.1 **Daily routines and physical self-care**

Participants often spoke about starting to do everyday things again, which had stopped when they were drinking: personal grooming, eating, driving, exercise, housework, managing finances. As one participant said*: "things like shaving, washing and all the things that go out the window when you're drinking"* (P7). Another participant highlighted the need to work gradually on some things, such as exercise*: "I've had to start right from scratch for fear of not breaking or pulling anything"* (P24).

Engaging again with these neglected activities was expressed as pleasurable by many participants: "*even my food tasted wonderful, you know, just drinking soda and lime and having a lovely meal*" (P15); "*just getting behind that wheel and driving was the best feeling in the world*" (P21). This sense of pleasure in everyday things seemed to be heightened and sometimes go beyond common experiences of taking pleasure in daily life: "*I'm full of the joys of spring, no matter what I'm doing … housework, going up to the supermarket, or walking the dog*" (P4). There were also occasions when appreciation was expressed: "*little things every day, like I took for granted, and now I don't take them for granted"* (P22).

Relearning basic living routines could take time, and at three months this could still be reported:

> *"Washing and shaving and cooking and eating sensibly … paying bills, you know the things that most people take for granted"* (P7, 3 months)

Eating well and exercise could be particularly important for health restoration:

> *"Be organised with my food three times a day and not get hungry, to make sure that those receptors in your brain are connecting properly"* (P6, 3 months)

> *"I also find exercise really helpful, and, um, eat, just eating really well, so basically just looking after myself"* (P24, 3 months)

For some participants there was progress over time from three to six months after detoxification: "*I started running again, which has been massively helpful actually*" (P3, 3 months); *"I've continued with my running and entered a few local races"* (P3, 6 months).

Serious health issues for a few participants meant their focus was on recovery from the physical health condition, and on coping with the limitations of the condition. One participant underwent chemotherapy, and facing this became her main priority:

> "*I've been fine, I've been busy, completed my chemotherapy and I'm on the radiotherapy, so that's it really, I haven't made any changes to my life … I'm too tired"* (P14, 6 months)

This person's experience suggests that the seriousness of her health issues meant her physical recovery had become central to her life, and she focused on home-based activities within her capacity during this time.

For the three participants who were interviewed at one year there was an experience of heightened wellbeing:

> *"I couldn't be happier, you know, it's as simple as that"* (P18, 12 months)

> *"I'm kind of, sort of living life to the full, really, without alcohol, it's just great … I've basically upped a gear because I've got so much energy and I feel so well"* (P24, 12 months)

> *"For me, as I sit now, recovery is not I'm trying to get better, I'm better, recovery for me now is expanding on, and life is really, really good at the moment"* (P11, 12 months)

This participant went on to explain that this did not mean there were not problems, but that problems could be faced much more easily when they were feeling stronger: *"We still have bad points, but you know, you can deal with it now"* (P11, 12 months).

4.6.2 **Healing close relationships**

Early in recovery several participants spoke about spending quality time with family – *"Me and my wife I suppose had a really lovely evening"* (P15) – and being able to do things for the family – *"I like driving her (daughter) to work, it makes me feel good*" (P24). Some participants were enjoying positive feedback from family members: "*She said, you're just such a different person … it makes me feel good inside*" (P15).

As recovery progressed over several months, participants often spent more time with family, and were increasingly able to be there for family members:

> *"Being regularly in touch with my mum … letting her know that she has that emotional support from me, 'cos she's obviously dealing with, my dad's in residential care"* (P7, 6 months)

Rebuilding trust became important in many cases; for one participant this meant getting in the habit of telling the truth again:

> "*My wife will go, 'Oh, did you get some milk?' 'No, I didn't go past the shop, no, I was in the shop I just forgot.' 'Why didn't you say that?'"* (P11, 6 months)

Other participants explained the difficulty of rebuilding relationships when it is not possible to promise long-term sobriety. This participant explained how she felt when meeting up again with people who she had upset while she was drinking:

> "*I was just incredibly frightened, because I felt so vulnerable, and all the memories and all the things I did were all still hanging around, you know, embarrassment, I just felt incredibly embarrassed, incredibly humble, and very grateful that the people who I'd come to see had enough faith in me and trust that they did actually accept me coming back up there, 'cos they could have said, no, fuck off, we're too worried that you're gonna smash the place up or be vile to people, you know, it was a very mixed bag of emotions and a sense of relief afterwards, and I felt absolutely exhausted"* (P24, 6 months)

In this extract the extent of the challenge of meeting up with people she may have hurt through previous behaviour is clear; memories, fear, shame, embarrassment and uncertainty all had to be accepted in order to go through with the meeting, which took a lot of energy. A positive outcome meant there was a great sense of relief afterwards.

At twelve months, two of the three participants were in stable relationships and all had children or close grown-up children, and these relationships were going well:

> *"Family life's brilliant"* (P11, 12 months)

> *"My daughter, my wife … they are beginning to accept that Dad is changing, that he is not as intense as he used to be, that they can laugh, 'cos they used to be scared of upsetting me if I flew off the handle, you know, because of that intensity that I had inside of me"* (P18, 12 months)

4.6.3 Pursuing a direction in work or retirement

For some participants getting back to work soon after detoxification was a high priority, and was experienced positively: *"I love getting up and going to work, everything seems to be firing more quicker"* (P11); *"I get up for work, I'm on it from the moment I get in there, I feel like I'm in control, I'm handling this and handling that" (P3)*.

For other participants work was important but needed to wait for a while, or else study or voluntary work might come first:

> *"In a month or so I want to try and get back into some part-time work, and be back doing something to keep my mind occupied"* (P21)

> *"I looked into Master's courses, so I applied and they've accepted my application … and I'm hoping beyond hope that will be the thing that stops me from, if I do think about drinking, and I know I will*" (P20)

This last example illustrates the perception that having a plan in place could make a difference in helping to stay motivated and maintain sobriety.

Some participants without work or an intimate relationship made more use of daytime recovery groups and community resources, and several had developed a programme of activities and support groups for themselves. One woman was helping out at the day programme she had previously attended, as well as taking part in and organising activities there:

> "*I feel a lot more confident that I will get through, because I've started to engage in places that there is so much, that I've just put a timetable down to what suits me to fill in the morning, something in the afternoon"* (P6)

Her programme included Acceptance and Commitment Therapy (ACT) groups, volunteering, a women's group and fitness activities run by the local community centre. Another woman had started attending regular AA meetings and had been to the library to find out about what groups were available locally. She was trying out a variety of groups, as well as planning her own activities at the weekends:

> *"I've got Knit and Natter every second Thursday … tomorrow night Scrabble … and fortnightly the art club … on Saturday I go and browse till about five o'clock … so I can pick up a book on psychology or anything in that related area and just enjoy reading that"* (P23)

For those in retirement or close to retirement other goals could be important:

> *"As long as I get my house done this year, all decorated and everything, I want to get all my bills straightened, I want to send away for a passport, save up to go away next year, I know what I want to do."* (P17)

Some participants spoke about the importance of being able to help others; in fact, the reason for taking part in the research was often spoken about as a wish to benefit others.

Participants who maintained abstinence at six months were mostly working and had made progress in work:

> "*My work's getting busier and busier, I'm starting to put myself back out there a bit more as my confidence in myself is coming back*" (P11, 3 months)

This participant continued to progress over the next six months:

> "*One of the people that … helped me get set up in business, he started handing over more work and asking me to do things for him, because he's seen the improvement in me"* (P11, 6 months)

For others there were more challenges associated with returning to work, and sometimes there were problems that needed to be addressed:

> *"To be fair I've made so many changes now, I've got a different work team, got rid of people who work for me and got a new team now"* (P15, 6 months)

Sometimes a career change was needed because their previous career was unfulfilling or a job had become insecure, and this could be daunting: *"It's difficult, because Christ, I'm almost fifty, so would anyone want me in a different career?"* (P12, 3 months). One participant had made a decision to set out on a new career path and found it difficult at first: *"I was starting a new course … I was getting anxious about that and the journey there"* (P7, 3 months). In time, however, attending this course became part of his routine, and he was progressing towards getting back to work:

> *"I'm doing things like this college course, twice a week, in the hope that I can get back into a situation where I can get some work and start working again, not rushing into it"* (P7, 6 months)

By twelve months all the participants' work lives were very positive, and two had made significant progress: "*I've been promoted at work, and to a really good position"* (P24, 12 months); *"My business is flying"* (P11, 12 months).

4.6.4 **Deciding on priorities**

Following detoxification several participants spoke about the importance of making decisions for themselves based on a new sense of priorities: *"The way I look at it now is, it's me and my wife and my kids"* (P15). For some people this involved relearning to trust themselves to choose their priorities and make their own decisions, and there could be some tension between advice given

and their own priorities:

> *"I've been offered a new job … all the family were saying it's too soon, too soon … I just feel more positive about this one, you know when you have a good feeling"* (P13)

As well as the difficulty of dealing with conflicting advice from different sources, there could be inner conflict over the best course of action: *"I'm trying to sort out what I'm really doing … what I need to do, not what I want"* (P6). Several participants spoke about adopting lower expectations for themselves in relation to their working lives – for example:

> *"In the past I always had to be a manager or I had to be this, and I don't want that anymore, as long as I've got enough to be comfortable, I'm happy with that. So I've got my sights set lower than I used to have, and that's fine"* (P1)

At six months the importance and challenges of making their own decisions was highlighted by several female participants. Again, it was often considered important to make decisions about their own priorities, and this extract highlights the difficulty of the path being navigated:

> *"There's no definitive line between a decision that I can make for myself and one that somebody else needs to make, there's no, it's just kind of a grey area almost, and I think, well, how do you decide what decisions you can make and what ones you shouldn't? … It just doesn't feel like recovery to me for somebody to be telling me how I should feel, or what I should say, or where I should go, it doesn't feel like I'm being responsible for my own behaviour"* (P3, 3 months)

This extract points to the dilemma between following prescriptive advice and making good decisions for oneself; the women commonly expressed that blindly following advice from others would not be compatible with their own understanding of recovery.

Work-life balance was another important matter, and this participant discussed this issue with her therapist:

> *"We talked as well about, I guess it's such a cliché isn't it, work-life balance, about feeling more comfortable that it's ok to prioritise family time as well as work"* (P3, 3 months)

At one year there was a sense that life was in balance for the participants interviewed; this is explicit in the following extract*:*

> *"My life as such is just about work-life balance, make sure I've got time to do the things I want to do, I do work incredibly hard, but there's a cut-off point*" (P24, 12 months)

4.6.5 Factors supporting change related to theme 3

Participants often described how services or family members supported changes they made. Routine and structure were supported by structured treatment programmes, and professional support often facilitated change related to meaningful occupation. Participants did not give examples of support in deciding on priorities and healing personal relations, implying these might have been changes they made alone.

Table 12 Interventions considered to be helpful related to theme 3

	Sources of support identified
1.Daily routines and physical self-care	
Encouraging structure	REHAB, DAY
Offering access to organised activities	Community facilities, DAY
Company	Friends, Family
2. Healing close relationships	
No examples given of direct source of help	
3. **Pursuing a direction in work or retirement**	
Support to identify strengths and direction	ACT, REHAB, social worker
4. Deciding on priorities	
No examples given of direct source of help	
ACT = Acceptance and Commitment Therapy; **DAY** = structured day programme; **REHAB** = residential rehabilitation programme	

4.7 Theme 4: Facing problems

Table 13 Theme 4 summary

Setting Out (first interviews)	Making Progress (interviews at 3-6 months)	Ongoing Recovery (interviews at 12 months)
Finding help for mental health problems: "*It's gone from stopping [alcohol] … straight to having the mental issues"*		
Facing mental health problems: - aware of mental health problems, or painful life issues masked by drinking now resurfacing - finds someone to disclose to - non-judgement and understanding important	**Getting the right help:** - usually tries various sources of help - eventually gets access to therapist or supportive family member - opens up regularly, feeling safe to do so - recognising unhelpful thought patterns - discovers new perspectives and alternative strategies	**Improved mental health:** - less unwanted thoughts and feelings - awareness of habitual patterns - self acceptance - reduced need of support - increased confidence in coping with mental difficulties
Positive action in facing stress: *"Look before you leap"*		
Facing stress and difficult life events: - aware of stresses not addressed when drinking	**Dealing with stressors and difficult life events:** - taking action to improve situation - look before you leap - aware of thought patterns - feeling calmer	**Reduced experience of stress**
Practices for mental wellbeing: *"Stopping and taking the time to do things that I will benefit from"*		
Personal practices: - adopts personal practices for self-awareness or spiritual development: journal writing, mindfulness, reflective reading, gratitude	**Keeping up practices:** - keeping up helpful practices - getting to know personal habits - embarking on 12 steps very important for some	**Positive mental health:** - practices become part of individual lifestyle - 12 steps become way of life for some individuals - feeling calm and peaceful

As well as facing the challenge of staying sober, for most participants there were problems related to mental health issues, stress or painful life events that had often been supressed or ignored when drinking. Left unaddressed these issues could make recovery very unstable. Overcoming these problems and adopting positive practices to support mental wellbeing were an important aspect of the recovery journey.

4.7.1 Finding help for mental health problems

Mental health issues were of particular concern for many participants who worried about how they could cope with these problems without drinking. This participant described an eating disorder which returned when she stopped drinking:

> *"It switches just as quick as it switched from food issues to using alcohol to block that out, it's gone from stopping that to going straight to having the mental issues around food"* (P6)

This example highlights how alcohol misuse can mask other issues, which come to the fore once abstinence is established. For one male it was sudden low moods that could be a challenge:

> "*The days that the depression comes in quite hard scares me a little bit and I kind of find it, I don't know how to cope with it*"(P11)

In the following example the participant has experienced a repeating cycle of relapsing when depression shows up, and is concerned about how she will cope next time:

> *"You know I feel great today, this is brilliant, but next week for no apparent reason there will be something that, you know … oh, I can't be bothered to go tonight, and little things like that. Over the years I've started to realise, that's when I know that things are going a little bit off kilter, so for me recovery would be how do I nip it in the bud then, what do I do then, or who do I talk to, or what do I do that means that the following week I'm not calling in at the Co-op to buy three bottles of wine on my way home"* (P3)

This example highlights the need to address issues that can arise soon after detox ends. This person recognised that depression played a role in her repeated relapses over many years, but had not yet found the right help to address this problem at the time of the first interview.

For those with mental health problems it was important to find someone who had an understanding of their particular problem and who would not judge, and this could be difficult. One participant spoke about her relief after finding a professional she could open up to about her issues for the first time, having felt judged when she had tried to talk about it in the past:

> *"When you say that and someone hasn't stabbed you, you think, oh, I can come back and they are understanding, and it's that empathy and understanding that has really pulled me so far forward this last month"* (P6)

By six months several participants who had mental health issues had found one-to-one help that suited their needs, often after trying a number of possible avenues. This participant tried counselling but did not benefit, and instead found regular support from his wife:

"It's like water off a duck's back when we have a chinwag at the end of the day, it's just done and dusted and its nice for the air to be cleared, and she knows when something is playing at the back of my mind as I get a bit snappy, and she won't let me get up and do anything else until I've said whatever is on my mind, no matter how stupid I feel it is" (P11, 3 months)

In this example it is as though his wife recognises a need to open up before the participant does, suggesting he may not be fully aware of his mood but instead caught up in it. He described embarrassment about the thoughts and feelings he was having, but once shared the problems seem to fall away *"like water off a duck's back"*. His wife became a source of regular support, and further into recovery he reported that he was now able to recognise when he needed to talk:

"*I don't tend to bottle up anything now, within reason, I mean, and we chat about it … because it helps keep your head that little bit clearer for when an obstacle does pop out*" (P11, 6 months)

He went on to explain how being able to speak out loud allowed a different perspective on his thoughts than when they remained unspoken:

"Just speaking it out loud seems to help cement it down and make you realise that it's not as big a problems as you've been thinking it is, you can break it down, you can turn it into steps that you want to overcome. It's listening or even acting like they're listening, it's just to hear it come out of your mouth rather than rattle around in your head" (P11, 6 months)

A female participant (P3) had difficulty accessing psychological help from services following detoxification, but found she could access Cognitive Behavioural Therapy (CBT) through occupational health at her work. This was helpful in order to gain insight into the depression which had impacted her for years:

"*I couldn't really function for worrying about what people were going to think, or how they were going to respond, and trying to second-guess people all the time meant that everything took me ten times longer than necessary"* (P3, 3 months)

She felt the therapy had helped her to stand back from her internal experiences and look at the situation differently:

"CBT has really helped me in the sense that I can now look at it and think … I have a choice in how far I pursue that … their reaction to things is theirs, it's not, you know, I don't feel the need to take it on board as personally as I did before" (P3, 3 months)

At the final interviews the three participants were experiencing much less mental turmoil, and had confidence in dealing with mental experience. For P11 there was less anxiety and depression, which he related to the change in how he dealt with his thinking:

> "*I'm not overthinking and creating problems … I'll worry about a situation, but then I can prioritise what I'm going to do in that situation and get on with it … I can overcome the barriers that I'm putting up in front of things that I'd normally let defeat me"* (P11, 12 months)

For P18 there had been changes in how he dealt with his sleeping problem, taking an approach of acceptance rather than struggling when the problem arose:

> *"I don't beat myself up, if I'm lying there and my mind is wandering, not sleeping, you know, I don't worry about it"* (P18, 12 months)

4.7.2 **Positive action in facing stress**

Some participants linked ongoing stress to their drinking, and found that how they dealt with stressful situations needed to be addressed when they were abstinent. Stress was also a factor in early relapses, highlighting the importance of learning to respond to stress effectively for some participants. For the following participant there was a build-up of stress in work and family life:

> "*The thing I hid behind was alcohol … basically, when you've got these feelings and your head's sort of going round a hundred miles an hour, and you've got, you know, obviously the brain's a very important thing and you've got twenty things going on in your one little mind … overthinking, worrying about things that have not even happened*" (P15)

This participant made changes on his own initiative:

> "*I made a lot of changes, a massive difference in me. I had issues with my salesman … I called him in my office and sacked him on the spot … and from that point it took me about two months to get the [business] the way I want it to run … the stress levels went down"* (P15, 6 months)

Another participant described a change in strategy in relation to dealing with an issue where his daughter was being bullied at school:

> *"In the past I would have jumped up and down, this time round I dealt with it in a very calm collected manner, went and spoke to the teacher, evaluated my options, went and saw the*

head teacher, principal of the school yesterday, and made a decision overnight with my daughter and my wife" (P18, 3 months)

This participant felt that he had changed his approach to stressful situations and this was also impacting how he felt: "*I'm a lot calmer, and that I think before I speak*" (P18, 3 months).

Painful life events could also require a new approach. One participant dealing with multiple bereavements had attended residential treatment immediately after detoxification for a month, and the impact of that treatment was helpful to her now:

"A lot of 'why's this happening to me, why did my sister die, why did so and so die, why did it all happen so quickly one after the other, why me', but it's not just me, it was everyone it affected … and those are the tools I think that they gave us to use, it's like trying to step back, just step back for one second and take a breath and see if this is gonna get you anywhere, how you're thinking and how you're gonna deal with it, just step back" (P24, 3 months)

She described being aware of an unhelpful pattern of *"why"* thinking but was now able to *"step back"* rather than getting caught up in these thoughts. She put this ability down to what she learnt in the programme: to step back and notice her thoughts and see if following them would be helpful. She was then able to consider alternative ways of dealing with things. She also considered the fact that others were affected, and in recognising this she was able to take a different perspective on the situation, perhaps beginning to see it less personally and more as a common human experience. She also felt that these changes affected different aspects of her life and her experience of wellbeing:

"When I came home my children said, 'my God you're so calm, we've never seen you like this, you brought like this calm aura to the whole house', and I'm still like that" (P24, 3 months)

4.7.3 **Practices for positive mental health**

The development of self-awareness was commonly seen as important by the participants who made progress in their recovery. Self-awareness was often related to recognising patterns of behaviour and thinking that created difficulties, such as:

"I've always been fairly convinced that I'm right about what I think about things despite, you know, being wrong an awful lot of the time … now I'm more prepared to accept the fact that other people might have a valid point" (P7, 3 months)

Changing habits could involve vigilance, self-patience and in the moment awareness:

> *"I have worked on a bit more self-awareness, I still catch myself blowing my top half the time but at least I catch myself now"* (P7, 3 months)

Unhelpful habits changed by other participants included shifting from judging others to tolerance, from arrogance to humility, and from setting goals too high to acceptance of personal limitations.

Some participants who had engaged in AA programmes, structured alcohol treatment or psychological therapy prior to detoxification often found self-development and spiritual practices were helpful – for example, inspirational reading, meditation, gratitude practices or journaling.

This participant learnt meditation while in residential treatment: *"I've really got into meditation, they taught us how to do it in recovery, it was how you'd start your day"* (P24). Mindfulness and gratitude practices that had been learnt in rehabilitation were often difficult to maintain over time without ongoing structure to support the practices. This participant joined a local group to continue to support her practice of meditation and maintained writing a diary:

> "*I think a lot of the recovery for me is stopping and taking the time to do things that I will benefit from … making sure that I've got that written down so I can reflect on it because I will benefit from that, and I know that I will keep this diary forever and I will look back on it"* (P24, 6 months)

At one year, two of the participants were less focused on practices for ongoing personal development, as the changes they had made had become part of their habitual life. For the other participant, continually moving forward with personal development was important. He had booked into a mindfulness course and was regularly reading to support personal development. He had also embraced the twelve steps as an ongoing process suited to his needs. He went on to explain why he felt that AA was so significant for his personal recovery:

> *"AA programme has shown, given me a path … I didn't have a very normal upbringing, because I didn't have any rules, I made the rules up as I went along since I was a kid, you know, lived on my own since I was fourteen, so what AA gave me was a set of principles, the steps, and to practice them to the best of my ability in my daily life, and I try and do that to the best of my ability, and I don't always succeed, of course, but that helps me, that helps me follow a path, for me"* (P18, 12 months)

This account suggests that following the twelve steps of the AA programme was important because he had lacked rules to guide his behaviour in life, and the steps met this need.

4.7.4 Factors supporting change related to theme 4

Table 14 highlights interventions that participants related as supportive of the changes they made. The identification of mental health issues by professionals was important, and access to counselling or CBT therapy were often described as helpful in addressing mental health issues. Family and other professionals could provide support in addressing daily stressors, while skills for wellbeing were provided in a number of programmes or groups.

Table 14 Interventions considered to be helpful related to theme 4

	Sources of support identified
1.Finding help for mental health problems	
Asking about underlying issues, show understanding, refer on	ASNS, DAY, REHAB
Prescribing medication for mental health issues	GP
Facilitates awareness of personal patterns and new perspectives	CADS-Counsellor, CBT-therapist
2.Positive action in facing stress	
Provides opportunities to talk things through	Partner, ASNS, CADS-Counsellor, GP
3.Practices for mental wellbeing	
Teaching practices, e.g. meditation, gratitude, journaling	REHAB, ACT, community facilities
12 steps facilitation	AA sponsor
AA = Alcoholics Anonymous; **ACT** = Acceptance and Commitment Therapy; **ASNS** = Alcohol Specialist Nurse Service; **CADS** = Community alcohol and drug service; **CBT** = Cognitive behavioural therapy; **DAY** = structured day programme; **REHAB** = residential rehabilitation programme	

4.8 Theme 5: Barriers to recovery

4.8.1 Stuck in relapse

Those who attended research interviews following relapse shared what they perceived to be the trigger for the relapse. For some participants there was one clear stressful event that triggered relapse: *"losing that money … everything, all the bits of paper … and I thought, sod it"* (P9). Another participant also identified a trigger event, criticising himself rather than the situation:

> "*There was bereavement, a close friend died in that month as well, but I just got myself into a bit of a state about the unfairness of it … and I suppose I was using it as an excuse to pick up again*" (P7, 3 months)

For another participant there were multiple factors, and again he was quite critical of himself:

"Typical of me, I think … I'll do it on my own, and for some weeks I can, and then all of a sudden, I don't know, bills, just certain things will trigger it … any stress, pain, any, it seems to be with me any excuse, which normal people would just deal with" (P1, 3 months)

Once relapse had taken hold it was only a short time before most participants wanted to stop drinking again, but it could be difficult to get access to another detoxification. One participant was encouraged by services to cut down her drinking, as her last detoxification had been so recent. She was one of several participants who expressed the difficulty of following this advice:

"They can't do another detox because I've just had one … I've got to do what the sister [said], to, you know, try, and I've got a drinks chart from her, and that is the most difficult form of … self-detox is notoriously awkward" (P6, 6 months)

Another participant reported that some detoxification services had shut down, and his perception was that there were no detox services available unless a patient was in a medical crisis:

"I can't do anything, he [GP] said, I get people in here who are shaking and then they get referred directly to [hospital name], in other words hospitalised, but there is no prospective detox unless you've got hundreds of thousands of pounds and you can go to the [private clinic]" (P9, 6 months)

4.8.2 Barriers to attending community services and groups

Many described past difficulty accessing community alcohol services, which led to reluctance to engage this time. This included the difficulty of getting to speak to someone in a service or not being called back*: "Oh, you don't answer me, well forget it then"* (P6); *"I went for an assessment, and they said I would be allocated a keyworker … I was never contacted again"* (P5). Other common past difficulties accessing services included: no appointments after working hours; only group options available; and difficulty getting funding for residential rehabilitation treatment. Participants also described negative experiences when they had attended a service, such as: contact with people drinking outside a service building; group sessions being dominated by those actively drinking – *"I didn't enjoy the meetings, a lot of them were still drunk"* (P21); and services no longer offering help once you had stopped drinking. Another barrier to finding help was that participants mainly perceived services to be oriented around the severe end of the addiction spectrum, aimed at people who may have lost employment, relationships and/or housing. One participant described how she had been perceived as doing well by the worker she met, based, it seemed, on her appearance:

"I'd turned up in my suit and he said, look, you're looking well together, you know, you've done your hair, your makeup, you're dressed for work, you know, you are doing ok" (P3)

During the study period several participants attended groups and found that some members of the group had been drinking; this was often considered unhelpful when trying to be abstinent:

"It did get me thinking of alcohol again, which was the last thing I needed, especially when I was, to be honest, well, I was thinking about it anyway" (P01, 3 months)

This was a common experience and was often the reason stated for not attending groups. Another female participant found a conversation related to drug use at a group meeting triggered distressing memories:

"They were, like, laughing and enjoying the fact that they had mugged people, well, of course I was … my daughter got mugged, so I felt very uncomfortable, so I had a breakdown" (P21, 6 months)

This extract highlights that when a person is in a group where others' experiences are not similar, the group can have a negative rather than positive impact; for this person, who was already very anxious about leaving the house, this experience was overwhelming.

For several participants there were other barriers to taking part in groups, such as concern about confidentiality for one participant, and social anxiety for others: *"I'm a bit anxious of, like, being in a group"* (P4). Another person did not want to attend groups because they were not interested in others' problems:

"I'm not going into group therapy, I've done that when I've done cigarettes and stuff, I haven't got time for ten other people's problems, I'm only worried about me" (P19)

The cost of transport to attend a meeting could also be a factor, or embarrassment about not having money to contribute to a collection: *"Well, you see, because I'm short of money I couldn't do that one last night"* (P23). Another participant felt the slogans used in AA groups were *"monotonous"*, and felt relieved when she stopped going to the AA meetings:

"*It just defines you as one thing and you become like sheep, basically. If it's not their way, it's the highway, you are told, you leave you die, and all these kind of awful things"* (P6)

For this participant it was a relief to find a different way to recovery than that offered by AA, in which she felt more able to make decisions for herself.

Several participants had tried to get help by attending AA meetings and spoke about their difficulty with fitting into this approach. The religious aspect of AA was stated as a barrier for many. Some participants were frustrated with the focus on alcohol problems and a perceived lack of attention to underlying issues. Others felt quite confused by the advice they had received through AA, and felt there was pressure to conform rather than make their own decisions:

> *"If somebody is saying, no, oh no you shouldn't do that … and we know better, I just don't find that helpful"* (P3)

At the same time a very positive side of AA was recognised by many, and some who described initial negative experiences went on to have better experiences at a later date.

4.8.3 Isolation and lack of employment prospects

Some participants who were single and unemployed were more isolated and had less structure to their lives than those with a business or career and close family. The following example shows how loneliness can be linked to drinking:

> *"The loneliness is huge and it's very hard to motivate yourself sometimes to get out, and once you stop doing that you break that pattern and you're suddenly very isolated again and it's very easy to let your body literally, you follow your body and before you know where you are you're sat with a drink just on your own"* (P6, 3 months)

Loneliness following a sudden bereavement was also described by one participant: "*I went home and I was like a little lost soul*" (P23). Isolation could be compounded by a lack of local resources or geographical isolation: *"There's nothing else to do here*" (P1, 3 months). This participant makes the link between drinking and geographical isolation very clear:

> "*Where I am now I've got nothing, I'm isolated, so I keep trying to move, thinking if I move I can get out, do things, I'm not sitting at home, I'm not thinking about, oh, I could have a drink, yeah, that will take away the day*" (P25)

For some participants who were unemployed there was a desire to return to work in the long-term, but other priorities took precedence, such as addressing physical and mental health issues and dealing with the benefit system. This participant considered working voluntarily in a charity shop as a step towards returning to the retail industry:

> *"I thought, right, once I've got all this sorted out then I will, I'll go and do that, but all this didn't get sorted out quick enough for me to not have started drinking, and I just kept*

looking at the application form and thought, I couldn't do that at the moment … I was effectively stuck in my flat again" (P1, 3 months)

One participant had made considerable efforts to set a new career path for himself and undertook training for a trade. However, there was also pressure from the benefit services (DWP) to return to work sooner: "*Biggest obstacle I've found, um, is DWP, who kicked me off ESA and put me onto JSA"* (P7, 6 months). This participant felt that the DWP assessment had "*caused my relapse through the stress and anxiety of the incorrect health assessment"* (P7, 6 months) and he was appealing the decision, but in the meantime he needed to be seen to be seeking work.

Another participant had a job he found monotonous with few prospects, and he linked this to his heavy drinking episodes, which had a binge pattern:

"*Where I work now it's, there's no, well, there's no real promotion upwards, no real chance of getting anywhere … I think after a while I just sat there, same routine, months after months after months, and I think that causes it, suddenly you just think, I'll just have a little drink, break the mood, do something different … but I know the second I have one that's it, I won't stop"* (P12, 3 months)

He considered that a change of career would be central to overcoming his drinking binges, but he did not have much hope that change was possible:

"Y*ou look at an advert and it says they want experience in this and that, want this and that. I haven't got that, but I'm pretty sure I can do that job"* (P12, 3 months)

4.8.4 **Not getting help for mental health issues**

Participants with multiple past detoxes often cited unresolved mental health issues as the triggers of previous relapses:

"*It's great for the first two weeks, being clean, but then the anxiety is rife, and that sort of breaks me most of the times, and this time*" (P6, 3 months)

This person also had a history of domestic abuse, and it was not until her ex-partner was sentenced that she felt ready to get help for her issues and move forward in her recovery:

"I'm willing to take the help, because before it was, no point, no point, 'cos it's all I'm thinking about, now I do want to do differently … now I can start thinking of good things, what goals I want, and focus on something else" (P6, 6 months)

She felt that the highly stressful court hearing needed to be over before she could progress in this area.

For another person, post-traumatic stress and anxiety about going out were ongoing problems and the reason for her developing a drinking problem: "*I used to drink to get outside because I was that scared to go outside*" (P21). However, she had been refused psychological services until she was six months sober, and was also turned down for counselling through addiction services. She was unable to maintain abstinence and had started drinking again, managing to keep it at a moderate level. The symptoms of anxiety were severely limiting her life and her ability to engage in recovery groups: "*Three times this morning I wanted to try and go to the shop and I couldn't do it, my husband went instead"* (P21, 6 months). She described the dilemma she had about drinking in order to reduce her anxiety and be able to go out:

> "*I don't want to drink more to do it, I don't want to do that either, I'm sort of in a bit of a sticky position really"* (P21, 6 months)

At the time of the interview her GP was supporting her to cut down her drinking, and had prescribed medication for the anxiety problem to be taken when she was able to stop; she said she was giving up on other types of help due to the obstacles she had experienced in accessing the therapy she strongly believed she needed.

4.9 Questionnaires

Baseline interviews included the completion of the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) questionnaire, which assesses readiness to change. Questionnaires were completed at the first interview by all but one participant. Table 15 below shows the questions for the three main concepts of the questionnaire: "problem recognition", "ambivalence" and "taking steps". Table 16 gives the results of the questionnaire for each concept (see base of diagram for threshold scores). The scores varied among the participants for "problem recognition" and "ambivalence", while the scores for "taking action" were mostly high or high-very high. As participants were only recruited if they were open to change it was anticipated that there would be relatively higher scores for taking action, but the consistency of high-very high scores was not anticipated.

When completing the questionnaires, participants often commented when they found that particular questions did not relate to their situation, and they were not sure how to answer them. For example, the question "If I don't change my drinking soon, my problems are going to get worse" was sometimes scored low if they felt they had already made changes, leading to a low overall score for problem recognition when all the other questions in this category were scored high. Another example is that five people scored low for "I know I am an alcoholic" but high for everything else in "problem recognition", and often commented they did not relate to this label. Ambivalence questions could be confusing for those who were already making changes, and they were often unsure how to answer.

The "taking steps" questions were more straightforward to understand, and participants related to these questions without raising doubts about how to answer. Nineteen patients scored high or high-very high for this category, one scored medium and two scored low-medium, suggesting an overall high degree of active change. For those participants who were followed up at three, six and twelve months there was negligible difference in these scores over time, suggesting that they continued to take steps towards change. These scores were reflected in the accounts of multiple changes most participants were making in the first few weeks after recovery, as already described. One participant who scored low for "taking steps" and very low for "problem recognition" had a different perspective than most participants:

> *"Recovery is when I look at other people when I go to that centre, I don't think I'm in recovery, I don't think I've got any problem at all, I'm not struggling in any way, I just go off on these binges and once I hit vodka that's it, I don't even know what I'm doing, I come round and think, oh my god, what's happened, and then I think, better stop, sort myself out" (P12)*

Table 15 Stages of Change Readiness and Treatment Eagerness Scale questions

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)
1. Problem Recognition questions
I really want to make changes in my drinking.
If I don't change my drinking soon, my problems are going to get worse.
I have serious problems with drinking.
My drinking is causing a lot of harm.
I know that I have a drinking problem.
I am an alcoholic.
2. Ambivalence
Sometimes I wonder if I am an alcoholic.
Sometimes I wonder if my drinking is hurting other people.
Sometimes I wonder if I am in control of my drinking.
3. Taking Action
I have already started making some changes in my drinking.
I was drinking too much at one time, but I've managed to change my drinking.
I'm not just thinking about changing my drinking, I'm already doing something about it.
I have already changed my drinking, and I am looking for ways to keep from slipping back to my old pattern.
I am actively doing things now to cut down or stop drinking.
I want help to keep from going back to the drinking problems that I had before.
I am working hard to change my drinking.
I have made some changes in my drinking, and I want some help to keep from going back to the way I used to drink.

Table 16 SOCRATES Questionnaire results

	Problem Recognition	Ambivalence		Taking Action			
ID	**Baseline rating**	**Baseline rating**	**Baseline rating**	**Baseline Score**	**Three months**	**Six months**	**Twelve months**
P1	High	High	Low-medium	32	32	X	
P2	X	X	X	X			
P3	High	Very low	Very high	40	40	40	
P4	Medium	Medium-high	Very high	40			
P5	Very low	Low-medium	Low-medium	31			
P6	Low-medium	Low	High-very high	38	X	X	
P7	Low-medium	Very low	Very high	39	40	40	
P8	Very low-low	Medium-high	Very high	39			
P9	Medium	Medium-high	Very high	40		32	
P10	Low-medium	Very low	Medium	33			
P11	Medium	Low	Very high	40	40	X	X
P12	Very low	Medium-high	Low	30	26	X	
P13	Medium-high	High	Very high	40			
P14	Low-medium	Low-medium	Very high	39	34	X	
P15	High	Very high	Very high	40		X	
P16	High	Very high	Very high	40			
P17	Low-medium	Very high	Very high	40			
P18	High	Medium-high	Very high	40	40	40	40
P19	High	Very high	Very high	39			
P20	High	Very low	High-very high	37			
P21	Very low	High-very high	Very high	40	40	36	
P22	Medium	Very low-low	Very high	40			
P23	Low	Medium	Very high	39			
P24	Medium	Very high	Very high	40		40	X

Very High	n/a	19-20	39-40
High	35	17	36
Medium	32-33	15	33
Low	29-30	12-13	30
Very low	7-26	4-8	8-25

4.10 Summary

All the participants in the study had been drinking heavily on a daily basis, leading to acute or chronic health problems and resulting in contact with hospital services. Drinking was commonly described as having escalated in relation to coping with mental health or emotionally painful issues. Over time drinking had become a painful unpleasant experience, and detoxification offered relief. The initial intervention of the alcohol specialist nurses meant there was someone to open up to at a point of crisis, and through this interaction it was often possible to discover an alternative path. Once detoxification was complete most people recovered physically within the first few weeks and could experience a heightened sense of enjoyment from day to day living. The majority of participants accepted the need for abstinence and family members were recruited to support this change; most participants took steps to avoid situations involving alcohol and meet others in recovery, and became increasingly aware of thoughts about drinking that could lead to relapse. Problems related to stress, mental health or difficult life events, if not faced and dealt with differently, could undermine progress and contribute to relapse. Relapses were common and were often experienced in the face of stressful situations or as a way of coping with ongoing mental health issues; difficulty relating to groups or finding a source of one to one support were common barriers.

For those making progress in recovery at six months, either by maintaining abstinence or overcoming relapse, there were additional challenges in developing healthy routines, finding satisfying work or projects, and repairing relationships. These changes were complemented by ongoing awareness of triggers for relapse, and developing strategies for coping with social drinking events and occasions when an intense desire for alcohol might arise. Professionals and peer groups such as AA could both support these changes and also raise conflicts when advice was perceived to be too directive. As time progressed a new balance was found based on personal choices, and peer group contact was often reduced. It was often important to address mental health or stress-related issues in order for this progress to be possible; when these issues were overcome, it was usually with one-to-one support from a counsellor, therapist or close family member.

At twelve months the three participants who were interviewed had continued to make changes and were now enjoying life, feeling generally calmer and were experiencing fewer challenges. They were working hard, and family relationships were going very well. There was little desire to drink at this stage, but it was important to be aware of the potential to relapse, and to remember why they had chosen abstinence. At this stage two participants were able to own labels such as

“alcoholic” or “non-drinker”, while the other felt she was now living as an ordinary person, not someone in recovery.

Social circumstances differed between participants in terms of family relationships, employment, geographical location and financial circumstances. Those who made the most progress in recovery had a job they enjoyed, and close family members; this group also described the benefits of change more often. Financial problems, reliance on the benefit system, lack of work options, and geographical location could pose significant barriers to recovery.

Several people in the original group of participants had serious and sometimes life-limiting illnesses, such as advancing liver disease or cancer. In these cases there was more attention to the health concern, and the idea of recovery from alcohol dependence seemed to become less relevant. Practical steps to avoid alcohol were the main changes described by this group, other than adapting to their health condition. For those with mental health problems all types of changes were relevant, but progress in recovery could be obstructed if they were not able to find help and overcome their mental health problem; this could be very frustrating for these individuals as their motivation for recovery and change was often high.

Contact with sources of empathic support and peers who shared similar experiences provided the necessary conditions for changes to take place. There was a common process of change identified that did not depend on any model specific to particular services or groups; most changes could be supported in different ways, or were influenced by previous experiences of support. What was seen as important was the availability of support, the opportunity to seek help when problems arose, and being able to regularly open up without the fear of judgement. Learning from advice and the experience of others were also important, and again this could include advice from a variety of sources. It was also the case that no single supportive person or group could meet all the person’s needs, and those participants who made the most changes in recovery often engaged in different types of support simultaneously.

Those following the city and town pathways shared a common process of change while accessing different sources of support. What differed was the number and duration of opportunities for support that were available in the different pathways, as well as the ease of access to follow on support after detoxification. The alcohol specialist nurse service could offer ongoing support for up to a year to those on the city pathway, and this was highly valued, especially in the first few weeks after detoxification. A recovery worker in the team also provided a link to group participation for some people, and the city area had a number of different groups that could be tried. It was also possible to access the service directly if problems arose or relapse occurred. Those who were unable to access the ASNS because they lived in the town areas were offered

referral back to community services, but most did not take this up based on previous experiences with the services; contact with a keyworker, if accessed, was generally a one-off assessment leading to referral to a group. Psychological or counselling support could be difficult to access in either pathway, and opportunities for residential and structured day treatment were limited.

Chapter 5: Discussion of Qualitative Findings

The purpose of this chapter is to discuss the qualitative findings primarily in relation to the first research question:

What is the process of change in early recovery from alcohol dependence for the patient group using detoxification in a general hospital?

Factors supporting and hindering recovery relating to the second research question are included here as well as they play a part in the overall process, but will be discussed further in Chapter 8 when the comparison of the two pathways will also be addressed.

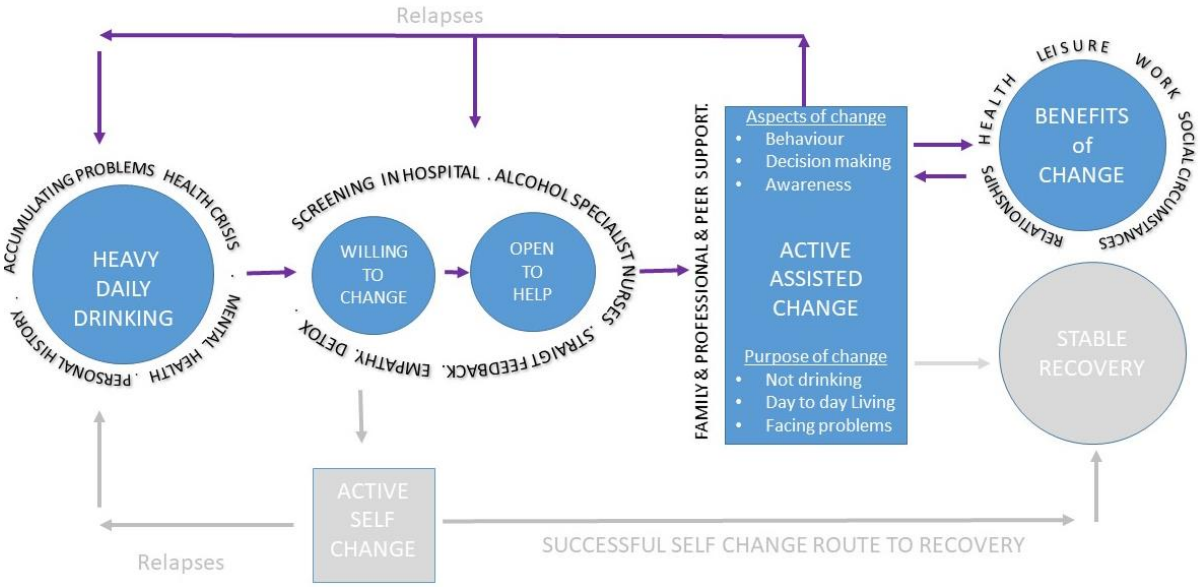
An analysis of the findings in relation to the literature presented in Chapters 1 and 2 is presented. This is followed by a theoretical analysis of the findings from a contextual behavioural perspective, and a theoretical model of change for recovery from moderate to severe alcohol dependence is proposed. The findings of the questionnaires are then briefly discussed, adding another perspective to the analysis. Before concluding the chapter the analysis will be critiqued in terms of 'sensitivity to context' and 'transparency and coherence', which were proposed by (Yardley 2000) as important to consider when assessing the quality of qualitative research.

5.1 Discussion in light of the literature review

The ASNS-recruited study participants frequently expressed that they were unable to control or moderate their drinking without help, and were more comparable to the Alcoholics Anonymous (AA) and treatment seeking groups than those in solo recovery in this respect. Thus, the process described below will focus on assisted change rather than those who recover without help.

The participants often used more than one source of support, including health professionals, peer groups, structured treatment programmes, individual therapies and family support. The process presented in Figure 8 and described below represents the finding that there are common processes of change that underpin recovery across different types of intervention, and which include wider sources of support such as family.

Figure 8 Stages of change in context



In Figure 8 above the stages of change model developed from the findings of the literature review is elaborated in light of the findings of this study. The contextual factors are shown in black surrounding each stage. Prior to contact with the ASNS, heavy drinking occurred in the context of the individual's history and accumulating problems culminating in a physical or mental health crisis. Willingness to change and openness to help often occurred together for this group, and were cultivated in the context of the ASNS nurses' early intervention at the time of first contact with the service. Active assisted change in the context of a variety of sources of support is mapped out in terms of the purpose of change (not drinking, day-to-day living and facing problems) as well as the targets of change (awareness, behaviour and decision making). The benefits of change are added to extend the model to reflect the importance placed on positive consequences of change in the accounts of those making ongoing progress; this was in keeping with the findings of Orford et al. (2006a), but was not highlighted in other literature review studies.

Each transition between the stages of change is discussed below in light of the literature. This discussion does not address stable recovery beyond one year after a detoxification episode or self-change, as they were not the focus of this study.

5.1.1 **Turning points**

The accounts of recovery started with a brief description of how a problem with alcohol developed; using alcohol to relieve painful internal experiences related to mental health, stress and loss were central to the accounts of almost all the participants. This concurs with the findings

of Carpenter and Hasin (1999), that drinking to cope with negative emotional states is an important factor in the development of alcohol dependence. Those following AA and treatment pathways to recovery commonly expressed that they were unable to control drinking unassisted and often continued to drink in spite of accumulating problems (Wing 1995; Jacobson et al. 2005; Orford et al. 2006; Dyson 2007; Christensen and Elmeland 2015). This differed from those whose chose the solo path to recovery, who were more often considered to change when the costs outweighed the benefits (Christensen and Elmeland 2015).

Several studies in the qualitative literature review had described a `turning point' that preceded active change in early recovery (Jacobson et al. 2005; Orford et al. 2006; Dyson 2007; Roper et al 2013; DePue et al. 2014; Christensen and Elmeland 2015). It was not until a crisis event occurred (Wing 1995; Orford et al. 2006; Roper et al. 2013) or there was an acceptance that the drinking way of life was over or no longer workable (DePue et al. 2014) that a willingness to change and seek help occurred. The majority of study participants experienced a crisis event that led to contact with the hospital, or the worsening of a chronic health condition related to alcohol consumption.

Some study participants described how the crisis influenced them towards change in the context of an empathic and straight-talking intervention from family or professionals during the crisis. A common element in the literature review was that a turning point involved opening up to trusted others (Orford et al. 2006; DePue et al. 2014) who might be family, professionals or peers in recovery; this could only take place when the interpersonal interaction was perceived as non-judgemental, which meant that the stigma preventing disclosure could be overcome (Dyson 2007). The accounts of study participants who came to this point of willingness to open up and accept help to change were often striking examples of how a turning point could be reached in the context of a medical crisis.

One of the study participants expressed her belief that she could change without the support of services or peer groups (P 14), and did not access help beyond a brief intervention from the ASNS. For this participant the turning point was precipitated by the need to stop drinking in order to have an operation for cancer; although life-threatening, this experience does not have the immediacy of the intense suffering described by those whose turning point occurred alongside an admission or ED attendance. This person's experience has more of a concordance with rational decision making when faced with the potential consequences of continuing to drink. This is in agreement with the findings of Christensen and Elmeland (2015) that self-changers did not necessarily include intense negative experiences, and were more likely to employ rational decision making in the process of change.

For around half of the participants this was not the first time that they had sought help to change, but the experience of those coming back for further detoxification was not evident in the literature reviewed. Several participants relapsed during the study and many had a history of past relapses; these participants often drew on prior learning from past treatment episodes and periods of abstinence, and were often making progress in recovery before relapse occurred. Kougiali et al. (2017) suggested that recovery is often a process that spans a number of periods of abstinence and relapse, and the findings of this study would support this. It was also evident that after a relapse participants very quickly (often within days) expressed regret and sought help to stop drinking again, and were sometimes frustrated by the difficulty they encountered in re-accessing services; this differs from the assertion of the Trans-theoretical model of change that those who relapse cycle back through stages of pre-contemplation and contemplation following relapse (Prochaska and Diclememente 1982), and concurs with the critics of this model (West 2005).

5.1.2 **The process of engaging in help**

There were similar findings in this study to the themes identified in the literature review regarding the importance of the quality of the relationship with those from whom help is sought (Orford et al. 2006; Gubi & Marsden-Hughes 2013; Gilburt et al. 2015.). The relationship with the nurses in the ASNS was often described positively, using words such as empathy, non-judgemental, kindness and caring. Also in common with Gilburt et al. (2015) was the value of a straight-talking approach and the importance of availability; a nurse, AA members and family members could invite contact when the need arose, and this aspect was highly valued. A relationship displaying these qualities meant that people were able to open up about their experience and the problems they were facing.

For some people attending peer groups, especially AA, there was a strong experience of relief in discovering that others had very similar experiences in relation to drinking; this finding of the importance of identification with the group was present in literature review studies about AA (Weegman and Piwowoz-Hjort 2009; Shinebourne and Smith 2011; Gubi and Marsden-Hughes 2013). In keeping with these studies, this experience of group identification appeared to assist in achieving greater awareness and acceptance of negative experiences, and facilitated opening up as well as the adoption of advice and slogans. Similar to the findings of Gubi and Marsden-Hughes (2013), however, over-prescriptive advice and slogans could be counter-productive, and there could be pressure to attend more meetings than felt helpful, especially when family and work commitments were also competing for time. As found by Weegmann and Piwowoz-Hjort (2009), attendance often reduced over time.

Participants who engaged with groups emphasised identification with the group's experiences, rather than identification as an alcoholic or sober person, as central to group-based transformation, as had previously been identified by Best et al. (2016). Statements identifying with a label such as 'non-drinker' were made in the final interviews with those who had remained sober for one year and who had made substantial progress in their recovery. This supports researchers who have questioned the central role of identity in driving change (Formiatti et al. 2017); the adoption or non-adoption of a drinking-related identity does not appear to automatically follow from identifying with the group, but it can occur later once a number of changes have been established. This distinction may be evident in this study because the longitudinal design allowed greater sensitivity to the order of changes.

A study by Parkman et al. (2017) suggested that those frequently attending ED departments for alcohol-related reasons had little interest in engagement with addiction treatment; these participants were reported to request broader mental health or psychosocial assistance, rather than specific addiction services. The group interviewed in this study differ in that they have a high degree of alcohol dependency, and this group often sought help from a range of services including alcohol specialists. They give an account of barriers to alcohol community services which may not be common in a wider group reporting alcohol related ED attendances.

For those who were seeking help for alcohol dependence beyond the alcohol specialist nurse service, there was commonly a perception that community alcohol services were not able to offer them assistance. This was often based on past experiences of trying to engage with community alcohol services. Gilburt et al. (2015) identified some of the challenges that can occur in navigating the alcohol treatment system as experienced by those who were using the services, such as conflicting advice and an emphasis on self-responsibility, which led to perceptions of not being helped and needing to do it alone. In this study the participants who had successfully engaged with community services were few, and it was common for participants to express the impression that their addiction was not severe enough to require help from specialist services, or else that there was nothing on offer from services once they had stopped drinking. It was common for people to give reasons for not using services such as attending groups where people were still drinking, or experiences of being threatened or bullied outside a treatment building where clients of the service gathered to drink alcohol together. A recent report by Alcohol Concern (2018) highlights the impact of cuts to funding that have rendered UK alcohol services close to crisis point; the findings of this study suggest that some statutory community services are not providing a service that is seen as helpful by those who have had a detoxification in a general hospital.

5.1.3 **Active assisted change**

Orford et al.'s (2006) grounded theory study found that 'thinking differently', 'acting differently' and 'seeing the benefits' were the three core intra-personal concepts of a model of change for an alcohol treatment group. The thematic analysis of the qualitative literature review suggested that this model might be extended to include awareness as a central intra-personal aspect of change; this aspect was also explicit in the Garland et al. (2012) study, where the impact of a mindfulness-based intervention was explored. The coding of interviews in this study supported extending Orford et al.'s conceptualisation to include 'awareness'. This was often related to thinking and being able to take new perspective by standing back from thoughts, but it could also take the form of awareness of physical and emotional states, behaviour patterns and consequences of behaviour. Orford et al. (2006) suggested that changes in thinking were seen as varied rather than following a consistent pattern. In this study the thematic approach was helpful in identifying types of changes in thinking: adopting acronyms and sayings, lowering expectations, plans for a better future, owning decisions, and remembering. Orford et al.'s (2006) analysis was based on summaries of interviews rather than full transcripts, which may have made it less sensitive to these aspects than this study. The interview method employed asking, asking for specific examples of changes followed by full transcription, contributed to more detailed accounts and allowed these aspects to be differentiated.

Orford et al. (2006) also identified inter-personal aspects as central to the process of change for those who completed treatment. As well as the impact of the treatment intervention, 'family support' and a wider system of support for change, including self-change, other services and past treatment episodes all played a role (Orford et al. 2006). The interplay between the inter- and intra-personal aspects was found to be contingent upon the quality of relationships, with aspects such as empathy and non-judgemental straight-talking being common to both the findings of the literature review and the findings of the current study.

The current study findings go beyond the findings within the literature review to describe these dynamic components of change in more detail. It was found that the interplay between these elements can be organised into three themes (themes 2-4). The second theme identifies changes that have the purpose of breaking the habitual pattern of drinking and establishing abstinence. The third theme focuses on building a rewarding and meaningful life. The fourth theme focuses on the need to deal with stressful situations and negative internal experiences differently, as well as cultivating positive practices of personal and spiritual development. This study thus goes beyond the current literature to identify common changes across a number of domains within recovery, in order to map out the key aspects of the recovery process as experienced by this

group of people in recovery from alcohol dependence. These findings could potentially be generalised to moderate-severely alcohol dependent people in active change in other settings; further research may be required to explore the extent to which the key themes and sub-themes identified here are applicable across different groups.

5.1.3.1 Not drinking

The participants in the study expressed a strong consensus regarding the requirement for abstinence. The process by which participants came to this conclusion was not deliberately explored in this study. In an editorial issue of the journal Addiction, Sobell and Sobell (1995) discussed the longstanding debate about abstinence versus controlled drinking. They conclude that the recoveries of individuals with severe alcohol dependence predominantly involve abstinence, which is generally chosen independently of the treatment approach offered. This study concurs with these findings, since only on two occasions was a goal of controlling drinking adopted temporarily, and these participants later returned to abstinence.

While the need for abstinence was generally accepted as a given, the process of adjusting to abstinence was given attention in participant accounts. Wing (1995) described how people admitted to a four-week inpatient treatment programme needed to make behavioural changes in the face of ambiguity, in the hope that things would improve; in the current study's findings, uncertainty about successful change was also highlighted in the popularity of the slogan 'one day at a time', and the utility of avoiding promising abstinence to others when these promises might not be kept.

In common with several studies in the literature review (e.g. Burman 1997; Dyson 2007) there were a number of participants who emphasised the importance of remembering the bad experiences they had had while drinking in order to maintain their commitment to abstinence; this was increasingly important as time passed, and a number of approaches could be used. At the one-year interviews the adoption of the label 'alcoholic' or 'non-drinker' could also serve to remind the person they were not able to drink, suggesting this may be one key function of adopting such a label.

One of the common behaviours found in the literature review (for example, Burman 1997) was the use of practical strategies to avoid alcohol. Avoidance strategies were commonly spoken of in the initial interviews, but in later interviews these tended to be replaced by approach strategies, such as those aimed at attending social events involving alcohol. It was recognised that external cues encountered in familiar places where the social context involves buying or consuming alcohol were better avoided at first; other cues such as advertising were also recognised as more

difficult to avoid. A study by Miller et al. (1996) found that those who adopted avoidance coping styles were more likely to relapse, suggesting that this transition from avoidance to approach coping may therefore be an important aspect of the recovery process.

Garland et al. (2012) described how mindfulness training influenced their study participants: '*Basic awareness of their present moment experience increased their insight into how their thoughts and feelings affected their actions*' (p. 6). Participants in the current study spoke about thoughts about drinking that could arise at almost any time, and which were often considered to pose a risk to the person; awareness of these thoughts was considered important in being able to choose a different course of action. As time went on those progressing in recovery became more aware of underlying states such as hunger, anger and anxiety as states which made them vulnerable to relapse. A number of recent studies have suggested that people with alcohol dependence find it difficult to recognise and describe emotions and can benefit from being asked to identify and rate their emotions (Krentzman et al. 2015), indicating that improving emotional recognition skills could be an important area in recovery. Awareness of thoughts and feelings seemed to be gained from other sources such as hearing and reading about others' experiences, not just direct mindfulness training.

On one occasion, a participant described a very intense experience triggered by the sight of a bottle of whisky in a shop. He used the words desire, obsession and compulsion to refer to this experience; it had a very different intensity to his everyday experience, and support from the AA was felt to be urgently needed in order to overcome the desire to drink. This experience seemed to fit the view of addiction as a compulsion and associated brain changes that have been observed (Volkow and Fowler 2000). This intensity of experience was relatively rarely reported by the study participants, with more emphasis given to passing thoughts about using alcohol rather than what could be described as an intense desire for alcohol's positive effects.

5.1.3.2 Day-to-day living

In the first interviews within weeks after detoxification, most participants were taking pleasure in small everyday activities, from eating a meal to driving or walking the dog; there was also a sense of relief from the suffering of active addiction. This experience was not highlighted in the literature review. This experience of pleasure seems contrary to neurological research suggesting that pleasure pathways are hijacked in addiction, reducing the experience of pleasure from anything other than the substance (Lewis 2015).

In keeping with the concept of recovery (White and Kurtz 2005), active change went beyond stopping drinking and involved addressing many aspects of daily life. This could include eating

well, exercise, pursuing personal goals in work and study, rebuilding relationships and adopting practices such as mindfulness. Those who were in work and established relationships focused on re-establishing these, while those without such relationships relied on a wider network of support services in order to make progress. These findings run in parallel with the idea that the amount of social recovery capital a person has access to will influence recovery outcome (Granfield and Cloud 1999).

This study went beyond those reviewed to highlight the importance of decision making, and the difficulties that could arise in this area when there was conflict between following advice and making personal decisions. There were often decisions to be made in recovery about what to adopt and what not to adopt; this could include dilemmas about whether or not to engage in peer groups or seek treatment, decisions about work and relationships and decisions about what advice and practices to follow. As the importance and challenges of decision making were not highlighted in other qualitative studies identified in the literature review, this issue may be more relevant to those who do not adhere to a particular treatment or peer support model but instead use a variety of supports. A number of studies have demonstrated that alcohol dependent patients perform significantly worse than controls in prefrontal functions such as decision making, and this could also contribute to these difficulties (Chanraud et al. 2007).

5.1.3.3 Facing problems

Several studies in the literature review highlighted that difficult experiences arose in recovery, often in terms of emotional difficulties including post-traumatic stress, dark moods, anxiety, grief, guilt, shame, stress and relationship tensions (Burman 1997; Brewer 2006; Shinebourne and Smith 2011). This was in common with the findings of this study, which identified addressing mental health problems including depression, anxiety and post-traumatic stress, as well as facing stressful situations, to be key aspects of recovery. Mental health problems commonly co-occur with alcoholism and are known to contribute to worse outcomes (Driessen et al. 2001; Schellekens et al. 2015). Difficulty accessing psychological therapy was experienced as a major obstacle to recovery.

The studies in the literature review that focused on AA emphasised a process of personal and spiritual growth that went beyond coping with difficulties to encompass promoting positive mental and spiritual wellbeing (Weegman and Piwowoz-Hjort 2009; Gubi and Marsden-Hughes 2013; Shinebourne and Smith 2011). This process could be seen as a transformation of character and a system for keeping oneself in check, and over time this could also include a spiritual transformation (Weegmann and Piwowoz-Hjort 2009). In the findings of the current study, those who were progressing in recovery often adopted personal development practices such as

mindfulness, gratitude, journal writing, the twelve steps, and spiritual or religious practices; these were often associated with AA and ACT groups or residential treatment. These practices were particularly strong in those who were interviewed at one year, who also reported a major transformation in their experience of happiness and peace. Although the group of participants interviewed at one year was small, their account of their journey could be described as a transformation that was a consequence of the changes they had adopted and maintained.

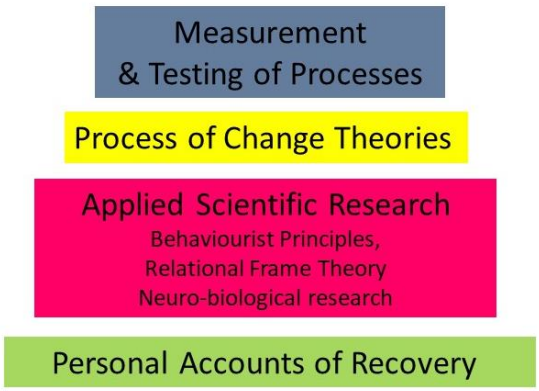
In summary, the reviewed studies of personal accounts of assisted recovery from alcohol dependence have a number of elements in common, which were supported by this study. The results of this study also build on the literature to identify key processes underlying change, which are summarised below. Qualities of relationships such as care, empathy, and a non-judgemental approach, as well as the experience of discovering commonality in the experiences of others, were identified as important aspects of the context in which these changes occurred.

1. A 'turning point' often involving a health-related crisis event
2. The adoption of new slogans, advice and strategies that guide behaviour change
3. Growing awareness of thoughts, feelings and behaviour patterns
4. Progress towards aspects of day-to-day living that bring positive rewards
5. Making and owning decisions in the face of conflicting advice

5.2 Theoretical Analysis

A limitation of the above analysis, which is based on a primarily semantic account, is that it is not possible to describe aspects of change that are outside conscious awareness. In order to explore latent themes in the data it is necessary to view the findings from a theoretical perspective (Braun and Clarke 2013). In this section a theoretical analysis is built on the foundations of the thematic analysis of personal accounts (see Figure 9). The findings of the analysis will be considered in the light of applied scientific research, focusing on behavioural principles and Relational Frame Theory this approach draws on the scientific model of contextual behavioural science, where basic research is translated into theory, which then forms the basis of interventions (Plumb 2010). Lewis (2015) recognised the value of considering neurobiological research into the brain changes that occur during recovery in the light of personal accounts of recovery; this potential is included in Figure 9 as a potential area for consideration, but is not applied here. A theory of the process of change in early recovery from alcohol dependence following unplanned detoxification is proposed in the light of the analysis. The results of the questionnaires administered during interviews will then be considered.

Figure 9 A four-layered approach to understanding the process of change



5.2.1 Behavioural principles and Relational Frame Theory

The behavioural tradition takes a unique approach to understanding human behaviour. A systematic analysis of the interactions between an organism and its past and current environmental context is used to explain all psychological events, including thinking. During the 1930s, Skinner developed the basic principle of operant conditioning (Skinner 1963), which relies on the notion that our actions are influenced by the consequences we have previously encountered. For example, positive reinforcement occurs when a consequence is added that increases the likelihood that a behaviour will occur. However, Skinner's behavioural analysis of language was widely criticised, with many suggesting that it did not adequately account for the complexity of language (Chomsky 1959).

Cognitive therapies were a reaction against behaviourism as well as psychodynamic therapy's limitations. In early cognitive therapy, 'cognitive distancing' (recognising negative or unhelpful thoughts) was described as a necessary first step towards the 'cognitive restructuring' that was considered necessary for behaviour change (Beck 1979). Zettle and Hayes (1988) theorised that cognitive distancing was sufficient for change, and went on to develop a new behavioural analysis of rule-governed behaviour that took a distinct direction away from Skinner's account of verbal behaviour as well as cognitive therapy. This work has led to the development of Relational Frame Theory (RFT), a modern functional theory of language and cognition within the behavioural tradition. There is now substantial empirical support for RFT from basic and applied research (Hayes et al. 2013). There is also the potential to integrate RFT research with neuroscience methods to address questions of brain-behaviour relations (Dymond 2013). RFT has developed into a wider field of experimental and applied research referred to as Contextual Behavioural Science (CBS), and various theoretical concepts have been developed from this basic theory.

Hayes et al. (1999) took the stance that suffering is a normal part of human life, and traced much of psychopathology to normal processes, particularly those involving human language. Relational Frame Theory (RFT) points out the process by which a child is trained to relate different aspects of experience, through an interactive system of rewards based on operant conditioning. For example, a mother repeatedly points to a toy car and says "car" and the child is rewarded with praise when they say the word "car" in the presence of a toy car; over time the child becomes familiar with the training routine and learns a range of 'equivalence relations'. This training continues throughout early development with different types of relations: comparisons (bigger/smaller), spatial relations (above/below), temporal relations (then/now), causal relations (if-then), hierarchical relations (part of) and relations of perspective (I/you, here/there) (Torneke 2010). These relations between directly experienced and symbolic aspects of the environment (such as words) are considered to form the basis of language. RFT is a direct abstraction from a set of behavioural principles, and serves to summarise technical knowledge.

5.2.2 **RFT and addiction**

In light of RFT it has been argued that language endows humans with a susceptibility for suffering (Hayes et al. 1999). For example, language allows us to reflect on the past and future in such a way that unpleasant internal experiences are frequently brought into the present. A central concept in this approach is 'experiential avoidance', which is underpinned by the behavioural principle of negative reinforcement. Both humans and animals have a tendency to avoid unpleasant experiences, but humans also seek to avoid language-based experiences such as negative self-evaluations, painful memories and anxiety about what might happen in the future. Social conventions suggest that such internal experiences can be relieved in a variety of ways, such as distraction, exercise and relaxation; there is an unwritten rule that we should be able to control our internal experiences. However, approaches aimed at controlling internal experience do not always work and can make matters worse (Hayes et al. 1999). Faced with non-workable strategies, a person might then perceive themselves as a failure if they have been unable to control their internal experiences; this can lead to more effort being put into making strategies work, followed by further frustration. Alcohol can be an effective source of short-term relief for both the initial suffering and the struggle with suffering that ensues; its use can be negatively reinforced, thus becoming habitual. Although accounts of developing an addiction were not the focus of the study analysis, most participants shared reasons for their drinking problem based on their attempts to control unwanted internal experiences, supporting the view that experiential avoidance is a key factor in the development of alcohol dependence. The logical conclusion is that recovery means breaking the habitual patterns of using alcohol as a source of relief.

> *"Recovery is the process of disconnecting from the solace found in substance use and contacting that which has been neglected or destroyed"*(Luoma and Kohlenberg 2012 p.216)

Relational Frame Theory has been applied to addictions in clinical practice through the therapy ACT (Acceptance and Commitment Therapy), and the development of an intervention referred to as 'the Matrix' (Polk et al. 2016). These interventions draw on concepts that are closely related to RFT, and there is a growing evidence base for ACT interventions with addictions (Wilson et al. 2012). There are also a wider range of interventions that can be considered to be compatible with a contextual behavioural science approach, or can be viewed from this perspective (Hayes and Levin 2012). The account below aims to draw on concepts compatible to CBS and stay close to participants' accounts, thus contributing a different perspective to recovery based in both personal accounts and CBS.

5.2.3 **The turning point**

The turning point for this group often brought the person face-to-face with the harsh consequences of their drinking. From a CBS perspective it is significant that the connections between alcohol use and negative consequences are not always consciously acknowledged prior to this. Human experience is immersed in the verbal processes of thinking or 'relational framing' to the extent that it can overwhelm other types of learning, and as a result we become less sensitive to consequences that are directly experienced. The implication is that drinking behaviour and the consequences of a person's behaviour have not been effectively 'tracked' or brought into awareness. Opening up about drinking and its consequences to the nurses may have facilitated awareness of the unconscious behaviour and long-term consequences, or strengthened an existing connection. Feedback about health status often brought awareness of serious health consequences as a close reality rather than a distant threat. The person was often helped to stand back from their experience and recognise that continuing to act out of the habit of drinking is no longer workable. This experience is described in contextual behavioural science using the theoretical concept of 'creative hopelessness' (Hayes et al. 1999) – a state where the person can no longer continue as they were but does not know how else to move forward. This is considered creative because it opens up a gap, an openness to new possibilities.

There is another aspect of this turning point that could be considered from a behavioural perspective. 'Punishment' is a form of operant conditioning; in behaviourism a consequence is only punishing when it reduces the occurrence of a behaviour, rather than the conventional understanding. Crisis events are often a factor in accounts of turning points towards change;

these crisis events may directly act as a punishment, reducing drinking behaviour at least in the short term.

5.2.4 **Rules for recovery**

During the initial interviews participants frequently described new behaviours aimed at breaking the pattern of addiction and new ways of thinking about recovery; these were often decided upon in discussion with family members, following "decent" advice from professionals or as a result of reflecting on slogans suggested by peers in recovery. From a CBS perspective these changes can be viewed in the light of the concept of 'rule governed behaviour', which is grounded in Relational Frame Theory (Hayes et al. 1999). A rule is a description that identifies a behaviour, the expected consequence of following the behaviour, and identifies the context in which the specified consequences can be expected. Not all rules are fully explicit; they may have implied consequences or unclear contexts. For example, "no drinking" was a common rule adopted by the participants, whereas a more complete example might be "if you continue to drink with this amount of liver damage you will die". Rules can also be 'augmented' by consequences that are embellished by words or imagery which increase the anticipation of positive or negative consequences; imagining a painful illness or death can be powerfully motivating.

There were a number of common rules related to recovery that were adopted by several participants. The slogan *"one day at a time"* was frequently found to be workable and easier to manage than a more abstract long-term commitment; not promising long-term abstinence to others was another rule that seemed to work. Other common rules adopted to maintain abstinence included avoiding triggers that could lead to drinking – for example, a rule to not keep alcohol at home or avoid work social events. As time went on rules could be applied with more discernment, such as a rule to attend a social drinking event but leave when others became intoxicated. Other rules related to positive life directions such as health, effectiveness at work, and relating better with family: having an early night, thinking before you speak, accepting you can't control others. There were also rules for making choices, such as *"I can choose when to stop work or say no"* (P3). Participants also took on new rules about how to deal with thoughts and feelings: *"be vigilant of thinking I'm ok now"* (P24); *"it's only a natural thought (let it pass)"* (P11); or the acronym *"HALT"* prompting recognition of hunger, anger, loneliness and tiredness, triggering action to take care of your basic needs.

As language develops, a child gains the capacity to follow rules initially in the context of the primary caregiver and later in other contexts such as school. Rules are initially adopted due to 'pliance', where consequences controlled by the caregiver reinforce rule following; as the child

develops they learn to 'track' the consequences of rules, so that rules are followed but are discontinued later if the stated consequence does not concur with the outcome experience (Hayes et al. 1999). A person's history with rules can lead to too much pliance, where a person might follow rules from a perceived authority unquestioningly, without recognising when a rule works or doesn't; the opposite can also occur, where all rules from authority are rejected. One participant described herself as habitually doing the opposite to what she was told (P13); she shared that if someone were to place a bottle of vodka in front of her and order her to drink it, she would refuse. It is easy to imagine that others might have a history of pliance and be inclined to follow rules to gain social approval, rather than because they are personally workable. One participant described having had no rules growing up, and found that the twelve-step programme offered a set of rules that he could live by (P18); he seemed to welcome the authority with which the rules were given, and found the rules highly effective in his life.

Ineffective rules can be maintained as group norms based on shared beliefs rather than their effectiveness (Styles and Atkins 2016). Particularly during the first interviews there were many examples of slogans and pieces of advice that were questioned because they did not resonate with participants; for example, the slogan *"recovery comes first"* (P3) was questioned by a woman with a young family, who saw keeping her job and her family home as her first priority. This led to a dilemma about whether to trust her own judgement or the source of advice; given that a person in this situation may also have lost confidence in their own decision making abilities, this could be difficult to negotiate. Other slogans were seen as non-flexible and authoritarian, such as *"if you leave you die"* (P6), and these could put people off becoming a member of a peer group. It was also common to be advised to focus on alcohol as the problem, rather than underlying mental health problems; this advice seemed particularly unworkable in several cases (P6, P3, P21). Another source of confusion about rules was when a participant came into contact with someone who was controlling their drinking rather than being abstinent; this person was following a different set of rules, such as *"it's ok to have just one"*.

The adoption of new rules appears to be an important aspect of early recovery, first in breaking the unconscious habit of drinking but also in increasing behaviour towards living a life that is valued; this corresponds to a CBS formulation of recovery (Hayes and Levin 2012). The findings suggest that in order for new rules to be taken on it is important that they come from a credible source, and for the rule to resonate with the person's own experience of what might be workable. Neither passive rule-following nor rebellion against rules is helpful in establishing new behaviours that work; ideally a person would be supported to recognise their relationship with rules and test out new rules that resonate with them, tracking the consequences. People in early recovery may

therefore need help with making decisions about which rules to follow in relation to their personal situation and goals, as well as in the effective tracking of rule following.

5.2.5 Progress in day-to-day living

CBS distinguishes between rational decision making and choices based on what is most important to the person ('values' Hayes et al. 1999); it is argued that effective choices for living are not necessarily rational, but can be made in the presence of rational arguments (through perspective taking) as well as values. The importance of values was generally implicit in participant accounts, rather than being directly articulated; people often spoke about their families, friends, work and health in ways that made it clear these were important to them. One participant (P7) had been in residential treatment and participated in Matrix groups (based on RFT). This participant shared that he had been encouraged to identify his values and struggled with this aspect of the programme, yet he was making steps towards a new profession as a result of this process. One aspect that he found difficult was the apparent conflict between *"living in the day"* and defining a valued direction for his life. Reflection on values was not apparent for most participants, but it seemed most of those who made progress could contact their values and the rewarding consequences without contemplating their values explicitly. The social context appeared to play a significant part in the availability of opportunities to engage with valued aspects of life. For example, several participants felt that their prospects for a work life they would find satisfying were obstructed by the high competitiveness of the job market and their perceived lack of experience or skills to compete.

5.2.6 Self-awareness

An important aspect of human development is our sense of self and our relationship to self. Relational Frame Theory describes how three different experiences of self can emerge from our language training: 'self as process', 'self as content' and 'self as context' (Hayes 1999). Our relational training in early childhood teaches us to distinguish between self and others; the perspective from which everything happens to us (I, here, now) is different from the perspective of others (you, there, then). This is the most basic sense of self. As our sense of self develops we are encouraged to recognise and describe our experiences such as our behaviour, feelings, thoughts, memories and bodily sensations; this capacity is referred to as 'self as process'. Participants described a gradual process of becoming increasingly aware of thoughts, emotions and behavioural patterns that had previously prompted drinking. Several participants spoke about the relief of finding others who had similar thoughts to themselves; this was often achieved by taking part in a peer group or through reading about others' experiences with addiction.

During development, people receive different levels of validation for expressing feelings and thoughts. For example, some children might be encouraged to express sadness but not anger, or the reverse; other children are not validated at all and keep much of their emotional life suppressed. There is evidence to suggest that emotional identification and expression are not well developed in people with alcohol dependence (Krentzman et al. 2015). Being able to open up to a trusted and empathic person was a common theme, and was seen as important by participants. For participants with mental health issues, related thoughts and feelings were sometimes not accepted in groups and people could feel frustrated at this; individual therapy or close family relationships provided a context where these thoughts and feelings could be identified and validated.

As development progresses we learn to speak about our self in a much more elaborate manner: we develop a story of 'who I am', which we tell to others as well as tell to ourselves. This self-story is made up of accurate observations of our own behaviour and experience, what others have told us about our self, and judgements and comparisons to others (Hayes 1999). This storied version of self could be equated with the common notion of identity, and it is often considered to have a strong influence on behaviour. The down side of this process of developing this 'self as concept' is that self-stories often become rigid and critical; self-knowledge can easily become self-struggle as we evaluate internal events. Participants in this study often told frank stories of their problems and attempts to overcome these problems within the context of their positive achievements; these accounts were not dominated by negative self-concepts, shame or rigid labels such as 'addict', although these aspects featured.

As people progressed in their recovery they gave multiple examples where they described being able to stand back from their thoughts and feelings, viewing them as if from a distance or from a different perspective; this was important in choosing to resist habitual patterns of behaviour in the presence of thoughts and feelings related to drinking, as well as in finding new ways to address mental health issues. This ability to discriminate between experience in the self in a way that makes it clear that thoughts, feelings and sensations are not the same as the self has been referred to as 'self as perspective' (Styles and Atkins 2016). People's thoughts are no longer taken literally, but are viewed as *"just a thought"* (P11), so there is a more detached relationship to them.

5.2.7 **Relationship qualities and change**

Participants described the importance of their relationships with professionals and sometimes close family members or peers in recovery to whom they were able to open up. Carl Rogers' work

on the therapeutic relationship identified that the core conditions of genuineness, empathy and positive regard were important (Rogers 1993); this resonates with the qualities valued by participants. Rogers' theory proposed that these qualities created conditions where a person could grow and change positively; these conditions encourage the person to be themselves with all their strengths and weaknesses, and creates the safety where negative thoughts and emotions can be expressed. Using empathy the therapist or helper accurately tracks the feelings and thoughts of the person, raising awareness of what may be only partially conscious, and the person will feel deeply understood (Mearns and Thorne 2003). The therapeutic or helping relationship can also be considered from a contextual behavioural perspective; Maitland et al. (2017) proposed an interpersonal process model of intimacy where the 'speaker' expresses vulnerability and the 'listener' responds in a safe, accepting, understanding and caring way. This interaction is seen as naturally reinforcing for the speaker, so that the expression of vulnerability is more likely to reoccur.

In terms of the experience of identification with the group there may be similar processes occurring in learning to express emotions and thoughts in a safe environment. The experience of meeting others with similar thought patterns around drinking was often experienced as a relief and validating. One participant spoke about how the culture of the recovery community normalised expressing emotions, to the extent that when he started to interact with people outside the community there was a need to hold back to avoid *"raise[d] eyebrows"* (P7). This suggests that the recovery community promotes a different set of rules about how to deal with and communicate internal experiences than in the wider culture.

Barnes-Holmes et al. (2018) used the term 'drill down' to describe their analysis of the therapeutic relationship from a contextual behavioural perspective. They suggest that a child's environment needs to be stable and consistent for the development of a stable sense of self, and to enable them to stand back from internal experiences and see them as separate from self. They argue that a therapist needs to establish a relationship with the person that provides the predictability and consistency that may have been absent from relationships with significant others during childhood. In this relationship the therapist can teach the client to talk about themselves from different perspectives. This highlights one potential difference between a therapeutic relationship and a helping relationship: the consistency of the therapy relationship can lead to this ability to take a distanced perspective on self. For one participant (P3) a shift of perspective on internal experience was central to her account of how individual therapy had been helpful to her.

Through the relationships that participants described positively they were able to pick up *"decent advice"*, slogans, and suggestions from others' experience; these were acted on and found to be

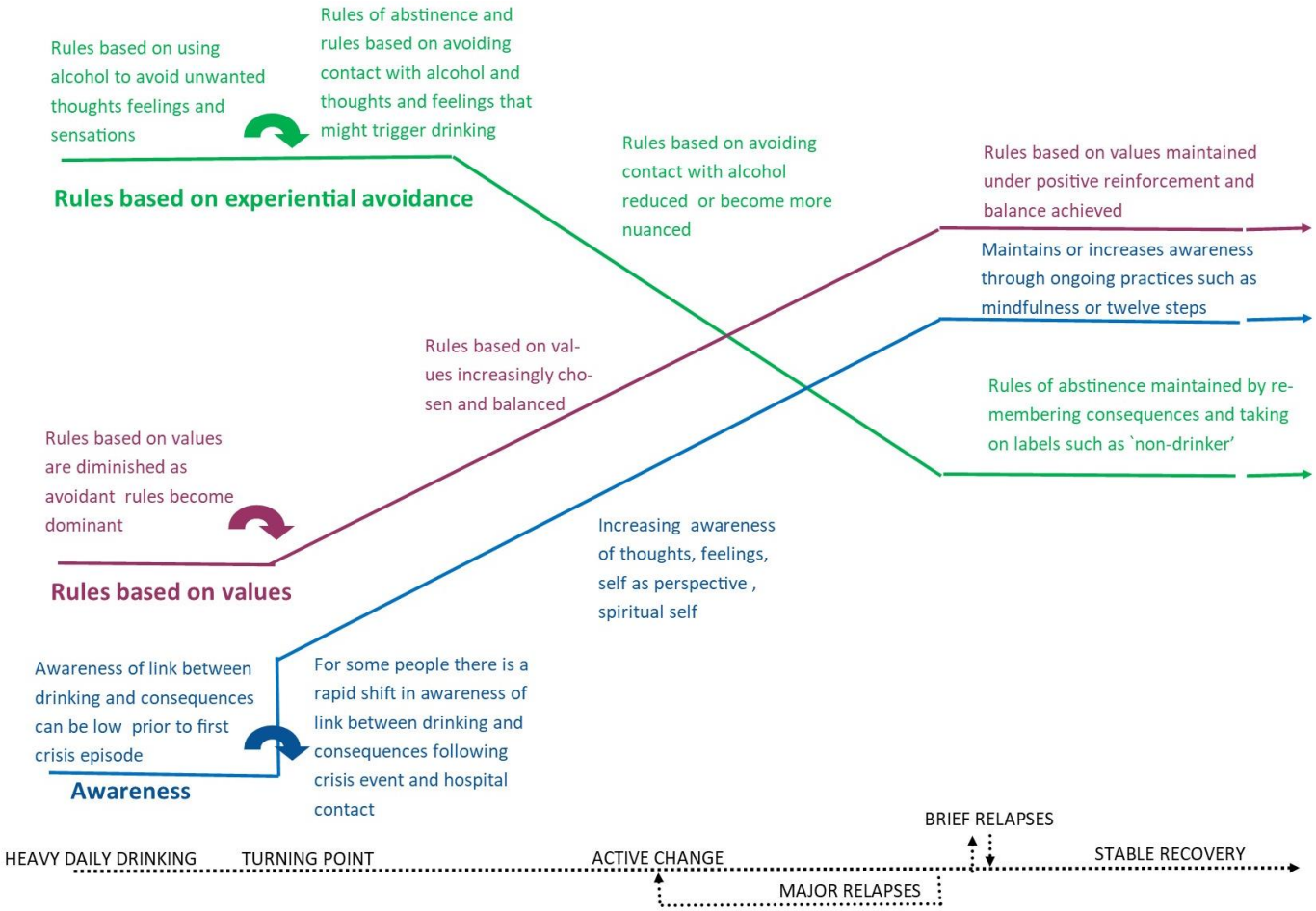
helpful in recovery. There were no examples of someone following advice from someone with whom they described a negative relationship. In residential settings practices were often learnt, such as mindfulness, gratitude and journal writing. Mindfulness can be seen as an attempt to weaken over-thinking and put people back in contact with direct experience; this practice can also facilitate the acceptance of unwanted emotional experience and self as perspective.

5.2.8 A model of the process of change in early recovery from alcohol dependence

The below diagram presents an overview of the key features of the process of change that are suggested when the study findings are viewed in the light of CBS principles and theoretical concepts. From left to right the diagram represents progress over time from heavy daily drinking to a turning point, active change and stable recovery (see base of diagram). Active change may include some relapses, where the process is interrupted and the individual might backslide. At the point of crisis awareness of negative consequences is increased, triggering change, and a gradual process of becoming more aware of and distant from present moment experience develops over time. At this turning point avoidant rules are initially embraced, and gradually the balance shifts towards value-based rules. Maintenance can then potentially be defined by three factors: adequate positive reinforcement for value-based rules; maintenance of awareness over time; and remembering the basic rules of abstinence. Relationships with groups, individuals and interventions can be viewed as providing the necessary context for this transition to take place.

In the account above the findings are viewed through the lens of basic principles and theories developed within the emerging research field of contextual behaviour science (CBS). This approach is considered to be relevant, first because it addresses the key processes of change described by participants. Second, it takes a contextual perspective, giving insight into the factors that could facilitate and hinder positive change rather than placing the full responsibility for change on the individual. CBS aims to predict and influence behaviour (as opposed to approaches that primarily seek insight), and thus there is the potential to identify contextual factors that could facilitate change and meet the pragmatic aims of this study. Another strength of this approach is that its theory is grounded in behavioural principles that have been established through rigorous behavioural experiments; in this aspect it stands out from other theoretical approaches.

Figure 10 A model of the process of change in early recovery from alcohol dependence



5.3 Critique of the analysis

Yardley (2000; 2008) developed four flexible principles for assessing the quality of qualitative research, which were designed to be applicable across different philosophical and theoretical approaches. The principle of 'commitment and rigour' was discussed in Chapter 3, and the principle of 'impact and importance' will be discussed in the final chapter. The principles of 'sensitivity to context' and 'transparency and coherence' are discussed below.

The interviews involved open-ended questions that allowed participants to talk about whatever aspects of the context they considered to be important. This analysis could also be considered to have ecological validity, in that people's accounts of recovery could be considered to be close to their experience. The stated aim of most of the participants was to help others by telling their experiences. However, it is important to consider that the context of an interview is not real-life, and people's accounts could function in other ways such as to gain support or approval from the interviewer, or to present a coherent story of the self. These issues were minimised by the use of a longitudinal design, which meant that the accounts were close in time to the actual events. Also, by requesting specific examples the natural tendencies to merge events into a story were countered. Participants were also asked probing questions about what supported and hindered the changes they had made, including their personal history and past learning. Thus the interview process could be considered 'sensitive to context'.

The coding was complete, so it was inclusive of context, and the thematic analysis highlighted relational and social contexts that supported and hindered recovery. In the theoretical analysis this was taken further to provide an account of how intra-personal and contextual aspects might interact during change. The discussion is grounded in the literature, which places the analysis within the context of wider research and allows the reader to assess whether generalisation to other groups is warranted.

In terms of transparency and coherence, the quotes provide evidence for the analysis and were inclusive of all participants and all relevant aspects of their accounts. The commonalities with other qualitative studies of those seeking help for alcohol dependence added to a sense of coherence in the accounts of the process of change. During the initial semantic analysis, effort was made to put theory to one side and become immersed in the participants' perspectives. It was possible to achieve this to a large extent on the gross level by following participants' own language and keeping to the planned interview questions.

On a more subtle level it was impossible to separate my own concepts from the analysis, and it is important to recognise the semantic analysis as the product of an interaction between the researcher and the participants. For example, 'awareness' was a concept that I was alert to because of my professional background in mindfulness-based approaches to therapy, and thus I was primed to pick up this aspect that might have been less obvious to someone with a different background. However, by separating the semantic analysis from the theoretical analysis, the evidence for highlighting this concept is apparent.

'Member checking' refers to a practice of checking the analysis with participants (Braun and Clarke 2013). A summary of the findings (see Appendix I) was sent to all the study participants in order to inform them about the progress of the study, but also to invite feedback. Two Patient and Public Involvement (PPI) group members were also asked to review the findings document before it was sent out; it was not possible to consult the whole PPI group as the Wessex Alcohol Research Collaboration (WARC) public involvement group no longer operated.

Only two participants took the opportunity to provide feedback. One was a very brief text: *"looks good"*. The other person met with me to check his quotes, as he had requested this when he consented to take part in the study. While checking through his quotes to confirm his permission to use them we discussed the semantic account of the analysis. There was a difference in the language he used to express concepts as he was immersed in AA, but overall he found the analysis to be inclusive of his experience, and there was agreement with the overall account. One of the PPI reviewers also commented on the summary analysis in a positive light based on their personal experience with alcohol:

> *"The tables are brilliant and very accurate – it's as if you've managed to get inside the alcoholic brain!*" (PPI respondent)

While this approach to member checking was limited in the response it received, overall it was affirmative of the analysis.

The use of questionnaires within the semi-structured interviews could be critiqued for its potential influence on the concepts that the participants might use to speak about their experience. In practice the questionnaires were administered at the end of each interview and there was no apparent adoption of the language of the questionnaires. Another potential critique is that the choice of questionnaires was not grounded in the analysis, as it was made prior to the analysis. The rationale for choosing the questionnaires was clearer for the SOCRATES, as it was grounded in the literature and a well-established measure. The other questionnaires were not well established in addictions research.

5.4 Summary

In this chapter the thematic analysis was discussed in relation to relevant literature, highlighting the resonance of the findings with other studies as well as additional insights. This allowed the process of assisted change in early recovery from alcohol dependence to be mapped out in a comprehensive way, based on participant accounts. The theoretical analysis, drawing on principles and theories from contextual behavioural science, deepened the analysis particularly in highlighting ways in which context and intra-personal aspects of change might interact. From this a model of change was proposed, which offers a new perspective to the application of CBS within the field of addictions. This model identifies aspects that could be directly targeted for change, such as different aspects of awareness and rule-following. Future research is needed to examine whether predictions based on this theory can be confirmed, and if its application is useful to those in recovery.

Chapter 6: Quantitative Results

6.1 Introduction

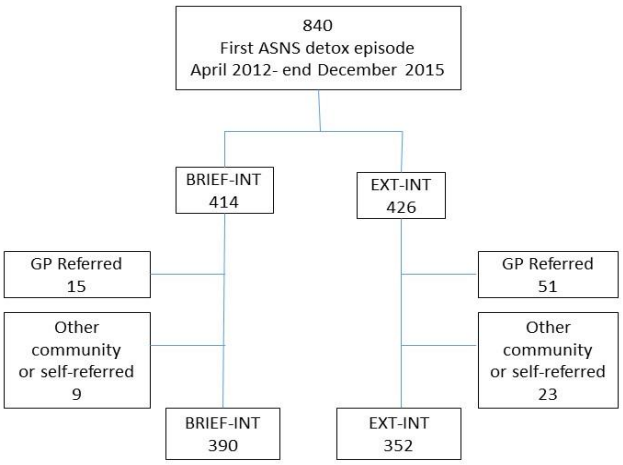
This chapter presents the results of the quantitative analysis of retrospective data. The sample selection, primary care diagnosis prior to the episode, diagnoses at hospital admission and discharge, and subsequent service utilisation are described. The distribution of the main outcomes (further detoxification, admissions and ED attendances and survival) are described over a four year period. The best predictors of outcomes are presented as the results of various regression analyses, using the model appropriate to the outcome variable. The outcomes for BRIEF-INT and EXT-INT are compared using the statistical analysis outlined in the methods section, which aim to account for the effects of confounding.

6.2 Sample description

The sample included a total of 742 patients whose first detoxification episode with the general hospital-based Alcohol Specialist Nurse Service (ASNS) was between April 2012 and the end of December 2014. Ninety-eight patients who were referred by community services or self-referred were excluded in line with the exclusion criteria (see Figure 11); the number excluded from the EXT-INT group was higher as the local pathways for planned detoxification included community-hospital referrals for this group. The majority of those included in the cohorts were referred from inpatient wards within the hospital; 20% of BREIF-INT referrals and 24% of EXT-INT referrals came directly from EDs, who may or may not have been admitted. The number of referrals from hospital outpatient departments were not routinely recorded after the start of 2014; prior to this date they accounted for 2.4% of all referrals.

There were 352 people in the sample who were living in the City area at the time of their first detoxification, and 390 who lived in the surrounding towns; these two groups represented the extended intervention (EXT-INT) and brief intervention (BRIEF-INT) groups. Eleven of the BRIEF-INT patients lived in areas classified as ‘rural town and fringe’, and fewer than six lived in areas classified as ‘rural village and dispersed’; the remainder were from ‘urban city and town’ areas, as were all the EXT-INT group. As the number of non-urban dwellers was small and there was missing data for thirty-four patients, there were no exclusions made based on urban/rural classification. Twelve people had been identified by the nurses as homeless and were allocated according to where they were sleeping; no exclusions were made based on homelessness.

Figure 11 Study cohorts and exclusions



Of the sample, 98% identified as White-British, 32% were female, and close to 50% were aged between forty and fifty-nine. Only 20% were employed, and more than half were classed as unemployed rather than retired or on long-term sickness. In the previous year 40% had attended outpatient appointments, 50% reported emergency department (ED) attendances and 35% had been admitted to hospital.

6.3 Diagnosis

Table 17 shows primary care diagnoses, indicating the presence of selected common chronic physical health conditions in the primary care (CHIA) data, prior to the first ASNS detoxification episode. Many of these conditions would require long-term medication and adherence to treatment. Only the data for the EXT-INT group are presented, as there is an unknown quantity of missing data from BRIEF-INT patients who have died (as explained in Chapter 3). It was found that just over half (54.5%) of the EXT-INT group had been diagnosed with an episode of anxiety or depression at some point in the past prior to baseline.

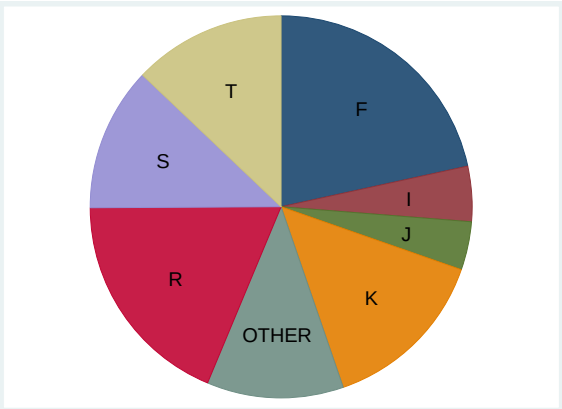
Admission and discharge diagnoses (1–6) were available for those who were admitted to hospital; the primary admission and discharge diagnosis was available for 92% of the cohort (n=682), and are shown in Figure 12 below. The most common diagnosis in younger age groups (Figure 13) were mental and behaviour disorders (primarily alcohol withdrawal, acute alcohol intoxication, dependence syndrome), diseases of the digestive system (including liver disease and acute pancreatitis), and poisoning and other external cause (primarily deliberate poisoning by a substance). The occurance of circulatory, respiratory and other diseases and injuries (mostly falls) increased in the older age groups.

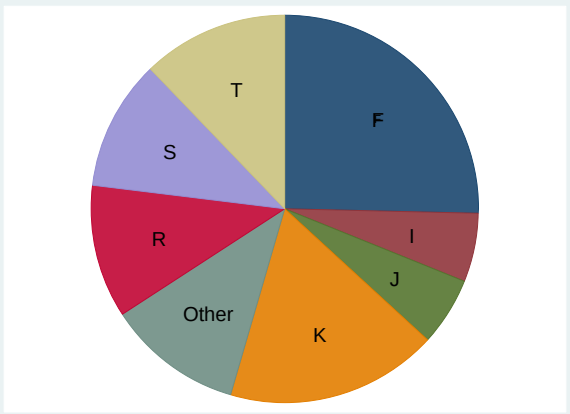
Table 17 Primary care diagnosis of chronic health conditions for EXT-INT pathway

Physical Health Condition	EXT-INT N=334
Hypertension	55 (16.5%)
Asthma	52 (15.6%)
Gastro-oesophageal reflux disease	28 (8.38%)
Chronic obstructive pulmonary disease/Bronchitis	27 (8.08%)
Ischemic heart disease (including angina and myocardial infarction)	25 (7.5%)
Diabetes types 1 or 2	21 (4.9%)
Hyperlipidaemia	17 (5.09%)
Epilepsy	14 (4.2%)
Cerebrovascular disease/ischemic stroke	14 (4.2%)
Atrial fibrillation	10 (3.0%)
Chronic kidney disease	11 (3.3%)
Heart failure	7 (2.1%)
Peripheral vascular disease	(s)
Non-specific dementia	(s)
One or more of the above chronic physical health diagnoses	**152 (45.5%)**
(s) secondary suppression had been applied to avoid disclosure by differentiation	

Figure 12 Primary ICD10 admission and discharge diagnosis

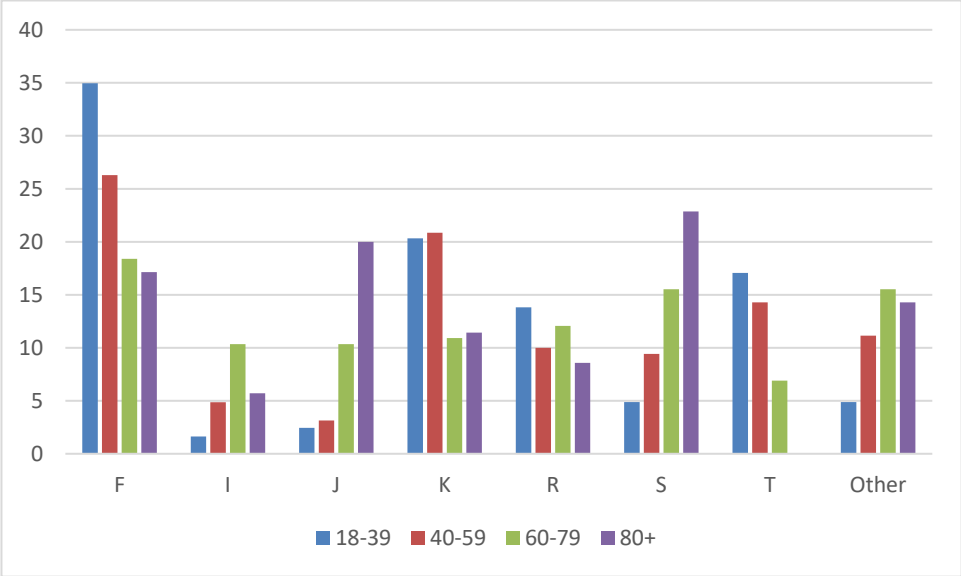
Admission: **Discharge:**





	Primary Diagnosis:	Admission	Discharge
F	**Mental and behavioural disorders** (primarily alcohol withdrawal, acute alcohol intoxication, dependence syndrome)	**21.5%** (n=147)	**25.4% (n=173)**
I	**Diseases of the circulatory system**	**4.7% (n=32)**	**5.72% (n=39)**
J	**Diseases of the respiratory system**	**4.1% (n=28)**	**5.72% (n=39)**
K	**Diseases of the digestive system** (including liver disease and acute pancreatitis)	**14.4% (n=98)**	**17.74% (n=121)**
R	**Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified**	**18.6% (n=127)**	**11.14% (n=76)**
S	**Injury with external causes** (mostly falls)	**12.2% (n=83)**	**10.85% (n=74)**
T*	**Poisoning and other external cause** (primarily deliberate poisoning by a substance)	**12.9% (n=88)**	**12.17% (n=83)**
O	**Other diagnosis**	**11.6% (n=79)**	**11.29 (77)**
	Total	**100% (n=682)**	**100% (n=682)**
*** 17.92% females had "T" primary discharge dignosis v. 9.57% males.**			

Figure 13 Percentage of discharge diagnoses by age category



6.4 Baseline Comparisons

Tables 18-19 below show the assessment of baseline differences between the BRIEF-INT and EXT-INT groups. There were a number of significant differences between the BRIEF-INT and EXT-INT groups at baseline. EXT-INT patients were younger, more likely to live in areas with greater deprivation (reflecting their city-based catchment area), had higher scores related to severity of alcohol problem (Units, AUDIT and CIWAR scores), had a greater number of admissions in the past five years, and had experienced more ED attendances in the past one and five years.

Table 18 Demographic differences at baseline between the extended and brief intervention groups

	BRIEF-INT N=390	**EXT-INT N=352**	**P**
Gender:	n=390	n=352	
Male	258 (66.2%)	249 (70.7%)	NS
Female	132 (33.8%)	103 (29.3%)	
Age:	n=390	n=352	
18–39	69 (17.7%)	76 (21.6%)	0.012*
40–59	186 (44.7%)	193 (54.83%)	
60–79	113 (29.0%)	69 (19.6%)	
80+	22 (5.6%)	14 (4.0%)	
Employment:	n=380	n=342	
Employed	86 (22.6%)	61 (17.8%)	
Unemployed	183 (48.2%)	194 (56.7%)	NS
Retired	98 (25.8%)	71 (20.8%)	
Long-term sick	13 (3.4%)	16 (4.7%)	
IMD DECILE:	n=371	n=337	
1	28 (7.55%)	83 (24.63%)	
2	67 (18.06%)	34 (10.09%)	
3	30 (8.09 %)	71 (21.07%)	0.000***
4	42 (11.32%)	44 (13.06%)	
5	16 (4.31%)	57 (16.91%)	
6	40 (10.78)	15 (4.45%)	
7	28 (7.55%)	13 (3.86%)	
8	33 (8.89%)	11 (3.26%)	
9	48 (12.94%)	8 (2.37%)	
10	39 (10.51%)	1 (0.30%)	
1–5	183 (49.3%)	289 (85.8%)	
6–10	188 (50.7%)	48 (14.24%)	

Table 19 Clinical differences at baseline between the extended and brief intervention groups

	Baseline Variable	BRIEF-INT N= 390	EXT-INT N=352	Test
ALCOHOL MEASURES	**AUDIT (Scored 0–40)**	n=366	n=324	
	Median:	33	35	0.004**
	IQR:	25-40	28-40	
	WEEKLY UNITS	n=363	n=322	
	Median:	140	182	0.011*
	IQR:	85-232	100-258	
	CIWAR (Withdrawal Scale)	n=371	n=323	
	Median	8	10	0.013*
	IQR:	4-15	5-17	
LIVER FUNCTION TESTS	**ALBUMIN g/L** (<35 low)	n=375	n=337	
	Mean:	34.8	35.6	NS
	SD:	6.75	6.94	
	ALT U/L (<41 normal)	n=374	n=336	
	Median:	37	43	NS
	IQR:	24-62	26-70	
	TOTAL BILIRUBIN umol/L	n=361	n=325	
	Median:	14	15	NS
	IQR:	8-24	9-26	
PRIOR HOSPITAL SERVICE USE	**ADMISSIONS IN PAST 1 YEAR:**	n=390	n=352	
	Median:	0	0	NS
	IQR (Max):	0-1 (10)	0-1 (8)	
	ADMISSIONS IN PAST 5 YEARS:	n=390	n=352	
	Median:	1	2	0.036*
	IQR (Max):	0-3 (20)	0-4 (42)	
	ED ATTENDANCE IN PAST 1 YEAR:	n=390	n=352	
	Median:	0	1	0.013*
	IQR (Max):	0-1 (16)	0-2 (15)	
	ED ATTENDANCE IN PAST 5 YEARS:	n=390	n=352	
	Median:	2	2	0.013*
	IQR (Max):	0-5 (36)	1-5 (109)	
DISCHARGE DIAGNOSIS	**Mental Health Discharge Diagnosis**	n=361	n= 321	
	Y	75 (20.8%)	57 (17.8%)	NS
	N	286 (79.2%)	264 (82.2%)	
	Liver Disease Discharge Diagnosis	n=361	n=321	
	Y	58 (16.1%)	63(19.6%)	NS
	N	303 (83.9%)	258(80.4%)	
	Primary Discharge Diagnosis	n=361	n=321	
	F (primarily alcohol-related)	93 (25.8%)	80 (24.9%)	NS
	I (circulatory disease)	23 (6.4%)	16 (5.0%)	
	J (respiratory disease)	24 (6.7%)	15 (4.6%)	
	K (digestive disease)	67 (18.6%)	54 (16.8%)	
	R (unspecified)	35 (9.7%)	41 (12.8%)	
	S (injury with external causes)	39(10.8%)	35 (10.9%)	
	T (poisoning/other external causes)	44 (12.2%)	39 (12.2%)	
	O (other disease diagnosis)	36 (10.0%)	41(12.8%)	

6.5 Engagement in the intervention post detoxification

Figure 14 below shows the pathways followed after detoxification for those offered the brief and extended interventions. Approximately half the patients completing detoxification did not engage in follow-up support with the ASNS, and this number was slightly higher for those offered a brief intervention. A second smaller group of patients (13%) were followed up by the ASNS as inpatients after detoxification but did not continue to use the service once they had been discharged from hospital; these patients were described by the nurses as sicker or facing terminal illness. Engagement in the ASNS post detoxification intervention as outpatients (33%) was more common in younger age groups, but was not related to gender (Figure 15). No-one in the over eighties group engaged as outpatients. The patterns of engagement by age and gender were very similar for both pathways.

For those who engaged in follow-up, the median length of intervention for the EXT-INT group was 30 days and the inter-quartile range (IQR) was 10–103 days; for those in the BRIEF-INT group the median length of intervention was 15 days and the IQR was 6–35 days. For those who were followed up in hospital only, the median length of intervention was 7.5 days and the IQR was 2–16 days, with little difference between the BRIEF-INT and EXT-INT groups.

Figure 14 Post-detoxification pathways

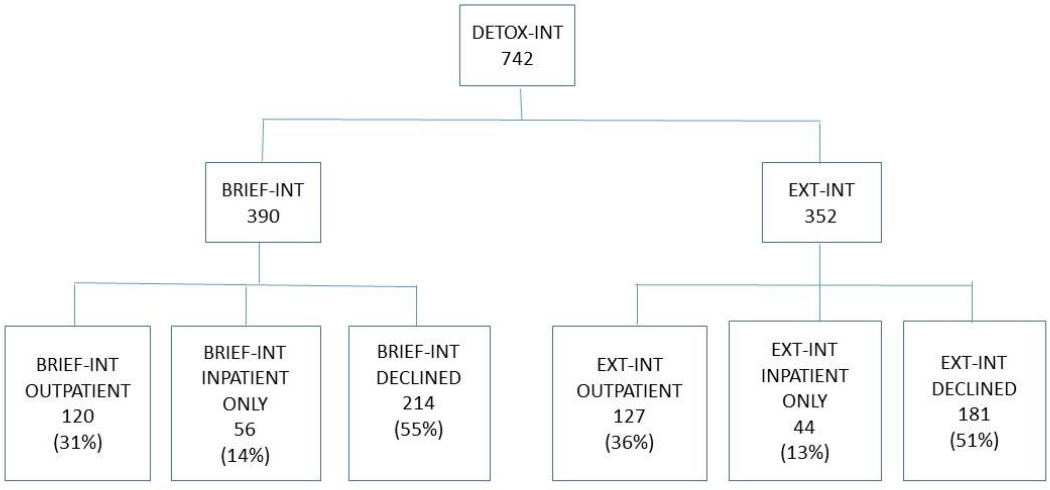
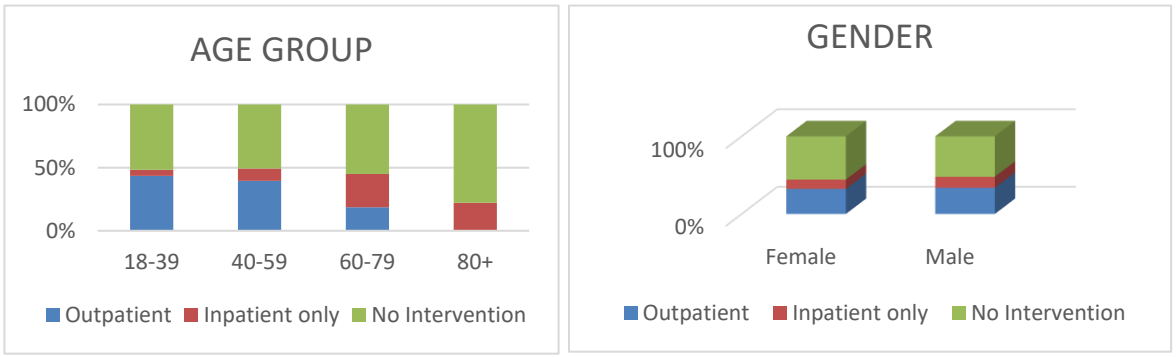


Figure 15 Engagement in post detoxification interventions by age group and gender



6.6 Engagement in other alcohol treatment services

The NDTMS aggregate totals are shown in Table 20, and are based on those patients in the cohort (N=742) who had their first ASNS intervention after April 2013 (N=368, as described in chapter 3). Forty-five percent (n=169) had contact with specialist alcohol services during the period for which data was extracted (between 5 years prior to detoxification and two years post), while over half were not in contact with services during this period. Approximately 70% of those in contact with services were aged 35-54 (younger in relation to the whole cohort), and two thirds were male. The detailed data provided identify episodes or treatment rather than number of individuals who had episodes; it was possible to estimate the number of people with episodes by assuming that few individuals were likely to have multiple episodes within a twelve week period. The data indicated that less than 2% (n=between 1-4) of those in the BRIEF-INT pathway had a community episode with the community alcohol and drug services (CADS) within twelve weeks of detoxification, and approximately 9% (based on the assumption that 17 episodes were for different individuals) of patients in the EXT-INT pathway had a specialist alcohol episode within twelve weeks of detoxification. The numbers of episodes remained low in both pathways over the year after detoxification. The majority of interventions were psychosocial with some pharmacological interventions; no-one accessed residential treatment, a recovery house or other structured treatments such as day programmes within a year after detoxification. Overall there was very low uptake of specialist alcohol services for this cohort, and this only slightly increased when these services were offered alongside the ASNS intervention in the hospital setting. Furthermore, there were less than five people who were discharged alcohol free having completed treatment in both groups.

Table 20 NDTMS treatment journeys and episodes

Description of data item	BRIEF-INT N=192	EXT-INT N=176
No. of Service Users using specialist alcohol services other than ASNS **	75 (39%)	94 (53%)
No. Community Episodes initiated within 12 weeks post baseline	*	17
No. Community Episodes initiated within 1 year post baseline	10*	25
No. Inpatient Unit Episodes initiated within 1 year post baseline	*	*
No. Residential Episodes initiated within 1 year post baseline	0	0
No. Recovery House Episodes initiated within 1 year post baseline	0	0
No. Pharmacological Interventions initiated within 1year post baseline	5	*
No. Psychosocial Interventions initiated within 1year post baseline	10*	23
No. other Structured Interventions initiated within 1year post baseline	0	0
No. patients with alcohol free completed Treatment Episodes initiated within 1year post baseline	*	*
***numbers below five are suppressed and some numbers have been rounded up to the nearest 5 to prevent identification of individuals in association with other data.** ****Total of 169 people or 45% used services between 5 years prior and two years post baseline detoxification** *Reference: Public Health England (2018)*		

Table 21 below summarises the primary care (CHIA) data regarding prescribing for the EXT-INT group (the BRIEF-INT data was incomplete). Medication for alcohol-related deficiencies (thiamine and vitamin B complex) were more commonly prescribed than medication to address an alcohol problem and reduce drinking more directly (e.g. Acamprosate, Disulfiram, Nalmefene or Naltrexone). The rate of prescribing for alcohol dependence in primary care following on from detoxification in the EXT-INT pathway was low (approximately 3% within 3 months), although a greater proportion were prescribed supplements for vitamin deficiencies related to alcohol use (approximately 32%).

Table 21 Prescribing in primary care related to alcohol dependence

		EXT-INT (N=334)
Prescribed within two years before baseline	**Medication for alcohol dependence**	(s)
	Supplements	114 (34.2%)
Prescribed within three months after baseline	**Medication for alcohol dependence**	10 (3%)
	Supplements	114 (32.2%)
Prescribed within two years after baseline	**Medication for alcohol dependence**	24 (7.2%)
	Supplements	180 (54.1%)
(s) secondary suppression has been applied to avoid disclosure by differentiation		

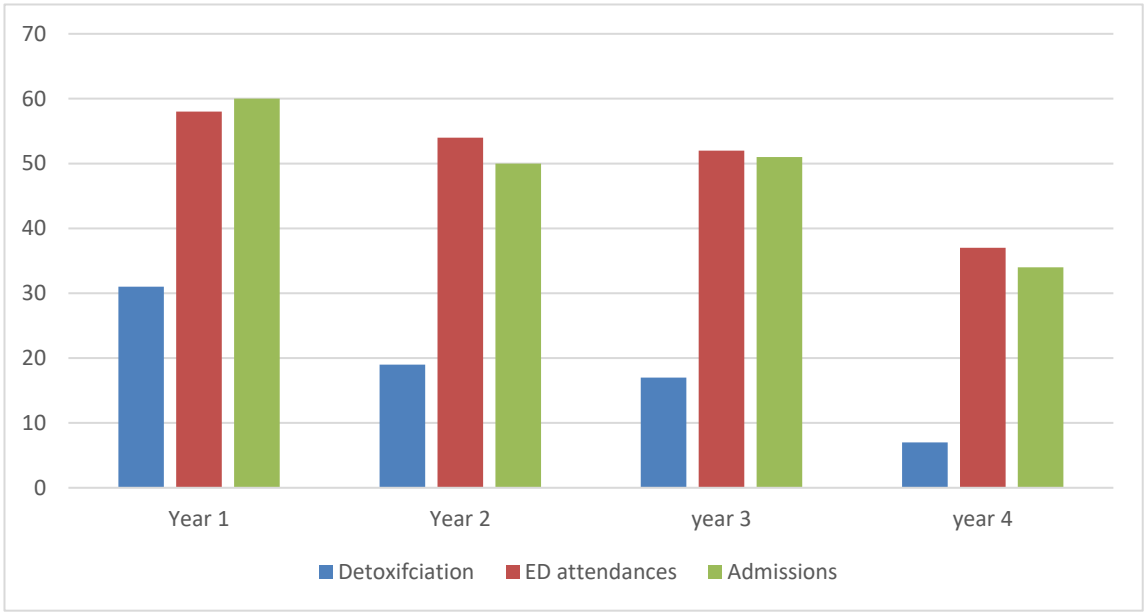
6.7 Descriptive analysis of outcomes for BRIEF-INT and EXT-INT

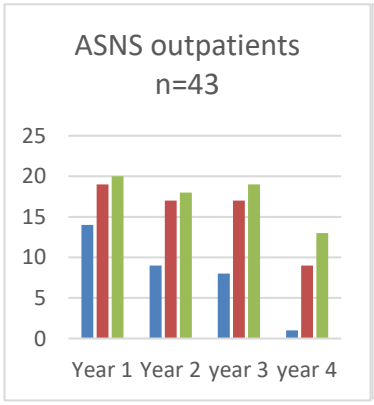
Table 22 gives a summary of the primary outcomes as they change over a four-year period, based on the percentage of people who had one or more hospital events within each year, and taking into account the number of patients with follow up time at each year end; those who died within each year were excluded for this summary as this would alter their pattern of service use. There was a distinct reducing pattern of hospital events over time, and this pattern was evident in both the BRIEF-INT and EXT-INT groups. Figure 16 shows the numbers of people having further episodes, including only those who survived and have four years of follow up time (n=120); this pattern was evident in the groups that engaged and did not engage, but not as clear in those who were seen by the ASNS on the wards as inpatients.

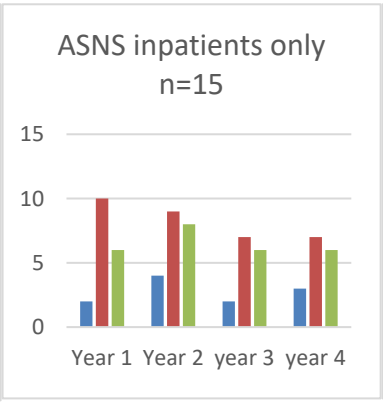
Table 22 Comparison of frequency of people with annual acute healthcare events over time

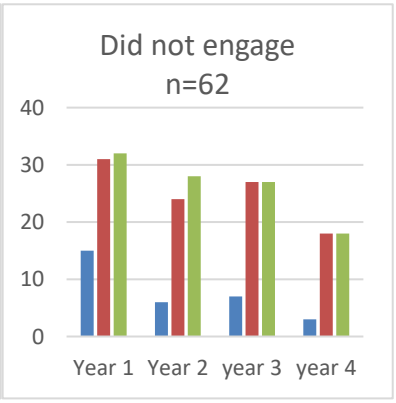
	Year	**TOTAL (N= 742) Number of people with events (>0)**	**BRIEF-INT (N=390) Number of people with events (>0)**	**EXT-INT (N=352) Number of people with events (>0)**
Additional Detoxes	Year 1	145 (21.8%) n= 665	62 (18.1%) n= 343	83 (25.8%) n= 322
	Year 2	81 (13.6%) n=594	35 (11.4%) n=306	46 (16.0%) n=288
	Year 3	43 (11.8%) n=365	18 (9.2%) n= 195	25 (14.7%) n= 170
	Year 4	7 (5.8%) n=120	5 (8.1%) n=62	2 (3.5%) n= 58
Admissions	Year 1	351 (52.3%) n= 665	187 (51.9%) n= 343	173 (53.7%) n= 322
	Year 2	246 (44.4%) n=594	133 (43%) n=306	131 (45.5%) n=288
	Year 3	142 (38.9%) n=365	70 (35.9%) n= 195	72 (42.4%) n= 170
	Year 4	34 (28.3%) n=120	18 (29.0%) n=62	16 (27.6%) n= 58
ED attendances	Year 1	336 (50.5%) n= 665	172 (50.2%) n= 343	164 (50.9%) n= 322
	Year 2	285 (47.9%) n=594	149 (48.7%) n=306	136 (47.2%) n=288
	Year 3	146 (40%) n=365	74 (38.0%) n= 195	72 (42.4%) n= 170
	Year 4	37 (30.8%) n=120	19 (30.7%) n=62	18 (31.0%) n= 58
n= **number who survived at year end and had the indicated number of years of follow-up time**				

Figure 16 Graphs showing number of patients with at least one health event by year (N=120)









There were 77 deaths in year 1 (10.4%) and 43 deaths in year 2 (6.4% of those alive at end of year 1). The Kaplan-Meier survival curve in Figure 17 below indicates the risk of death over time; this shows a similar rate of survival for both pathways. Those who engaged in the ASNS had the best survival rates (Figure 18), while those with extended admissions who did not engage with help after discharge, but were seen on the wards, had greater mortality.

Figure 17 Kaplan-Meier survival estimates for brief and extended interventions

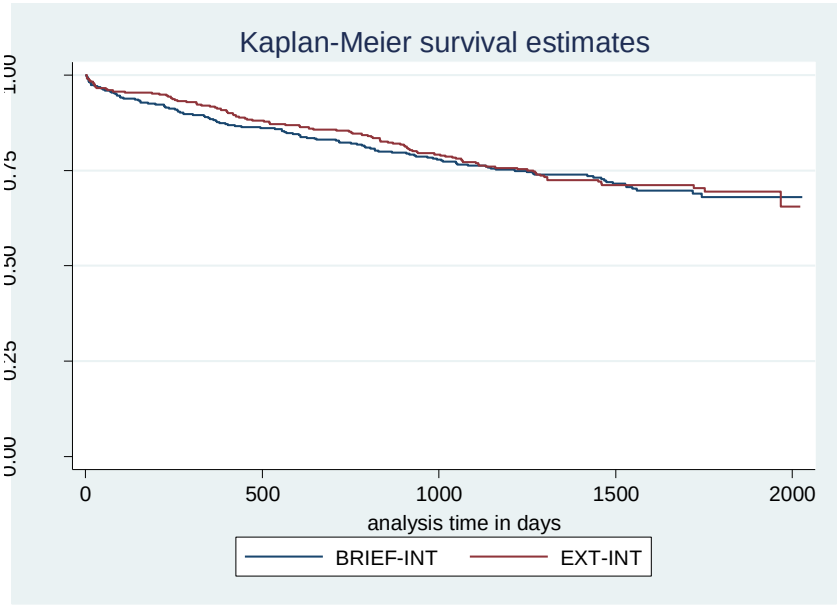
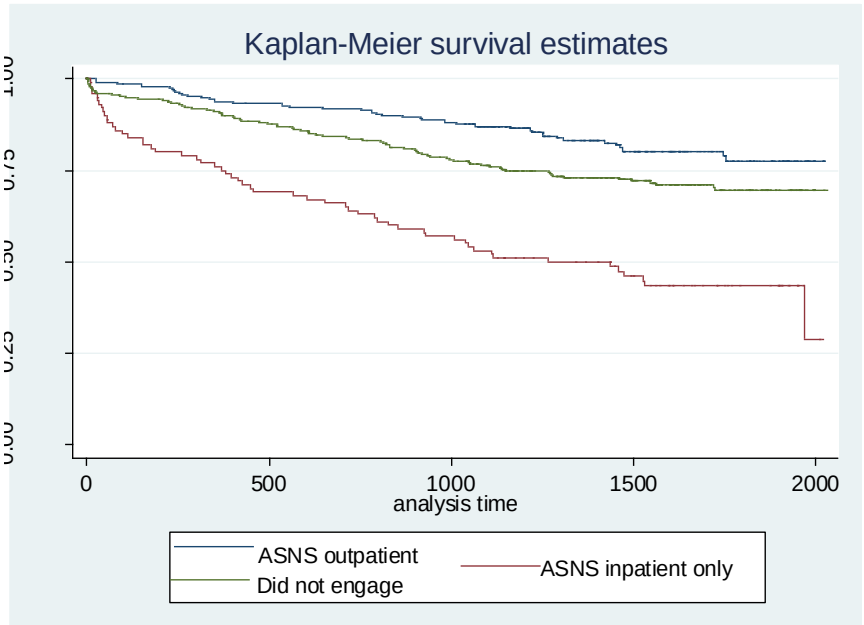


Figure 18 Kaplan-Meier survival estimates for the three patterns of post detoxification ASNS engagement



6.8 Prediction of key outcomes

The results of multivariate regression analyses are presented for: engagement with the service as a process outcome; additional detoxes; further admissions; ED attendances; and survival. For each outcome univariate regression is presented first, followed by backwards elimination multivariate analysis of risk factors for best prediction.

6.8.1 **Engagement**

Tables 23-24 show the results of univariate and multivariate logistical regression analyses which were carried out using a binary dependent variable indicating outpatient engagement with ASNS post-detox (n=627 as a result of cumulative missing data, the impact of which will be assessed in chapter 7). The multivariate model was significant: $X^2(9)$= 97.69, p<0.000, and the Hosmer-Lemeshow test suggested acceptable model fit (p= 0.655). The odds of engagement in the brief or extended interventions were reduced significantly for those who were retired, medically retired or unemployed in relation to those who were employed. Protective factors that appear to have influenced engagement were being younger than 60 and employed. Those with low CIWAR (withdrawal scale) scores had lower odds of engagement than those with the highest scores; consistent with this in the univariate analysis was that those with higher AUDIT scores and units (likely to be more severely alcohol dependent) frequently engaged in help. Those with a primary diagnosis F (usually alcohol withdrawal, intoxication or dependence) or liver disease were also more likely to engage than people with other diagnostic categories. Those patients who had a mental health diagnosis appeared to be 40% more likely to engage in ASNS according to the univariate analysis, but this factor was not retained in the multivariate analysis; the p value of 0.067 might reflect the relatively low numbers identified at admission as having a mental health problem, reducing the sensitivity of the analysis related to this factor.

Table 23 Engagement in ASNS as outpatients after detoxification (univariate logistic regression)

	Variable (reference)	N	Category /Variable type	OR	P	Confidence Interval	
DEMOGRAPHICS:	Age (40-59)	706	Age 18-39	1.173	0.420	0.796	1.728
			Age 60-79	0.351	0.000	0.229	0.537
			Age 80+	Omitted as no-one engaged			
	Employment (Employed)	722	Medically Retired	0.264	0.006	0.102	0.687
			Retired	0.176	0.000	0.103	0.300
			Unemployed	0.606	0.011	0.412	0.890
	Gender (Female)	742	Male	1.065	0.709	0.766	1.480
	IMD Decile (6-10)	708	IMD 1-5	0.894	0.502	0.644	1.240
ALCOHOL MEASURES:	AUDIT (40)	696	AUDIT 31-39	1.09	0.654	0.744	1.602
			AUDIT 21-30	0.65	0.047	0.429	0.994
			AUDIT <21	0.242	0.000	0.118	0.497
	UNITS	685	Log	1.279	0.005	1.077	1.518
	CIWAR (16+)	694	CIWAR 9-15	0.751	0.174	0.497	1.135
			CIWAR 5-8	0.429	0.000	0.271	0.677
			CIWAR <5	0.202	0.000	0.122	0.335
LIVER FUNCTION TESTS:	Albumin g/L (<35 low)	712	Continuous	1.056	0.000	1.030	1.083
	ALT U/L (<41 normal)	710	Log	1.330	0.004	1.093	1.618
	Bilirubin umol/L	689	Log	1.131	0.153	0.955	1.340
DISCHARGE DIAGNOSIS:	Liver Disease	682	Binary	1.323	0.185	0.874	2.002
	Mental Health	682	Binary	1.452	0.067	0.975	2.162
	Primary Diagnosis (ICD F)	682	Digestive disease	0.596	0.035	0.368	0.963
			Injury	0.321	0.000	0.171	0.602
			Poisoning	0.419	0.003	0.237	0.743
			Unspecified	0.537	0.032	0.304	0.947
			Circulatory, respiratory, other diagnosis	0.224	0.000	0.133	0.377

Table 24 Engagement in ASNS as outpatients after detoxification (multivariate logistic regression)

n=627 **Variable (reference)**	**Category/ Variable type**	**OR**	**P value**	**Confidence Interval**	
Employment (Employed)	Medically Retired	0.227	0.013	0.070	0.731
	Retired	0.208	0.000	0.111	0.388
	Unemployed	0.550	0.010	0.348	0.868
CIWAR (16+)	CIWAR 9-15	0.783	0.300	0.493	1.243
	CIWAR 5-8	0.542	0.025	0.317	0.926
	CIWAR <5	0.260	0.000	0.145	0.469
Primary Diagnosis (ICD F)	Digestive disease	0.716	0.221	0.420	1.222
	Injury	0.417	0.013	0.209	0.834
	Poisoning	0.424	0.007	0.227	0.793
	Unspecified	0.579	0.083	0.312	1.075
	Circulatory, respiratory, other diagnosis	0.368	0.001	0.204	0.663

6.8.2 **Additional detoxes**

The results of univariate regressions for the dependent outcome of additional detoxes in year 1 and year 2 are presented in Table 25 and Table 26 below. The models found to be the best fit to predict the outcome using multivariate negative binomial regression are summarised in Tables 27 and 28. Anscombe residuals and Q-Q plots (Appendix J) show that the assumptions of the model are met to an acceptable level. The incident rate ratio (IRR) for additional detoxification events within the first year after the first detoxification increases with higher baseline AUDIT and CIWAR scores, and when the log of bilirubin is higher (n=625). In the second year bilirubin continues to be a factor, but drinking measures no longer predict outcome; in year 2 the presence of a mental health diagnosis on admission to hospital becomes a significant factor. The number of patients included in the second year was reduced due to less people contributing follow up data for this duration in addition to cumulative missing data (n=535).

Table 25 Additional detoxifications in year 1 (univariate negative binomial regression)

	Variable (reference)	N	Category/Variable type	IRR	P value	Confidence Interval	
ASNS INTERVENTION	EXT-INT	665	Binary	1.428	0.020	1.056	1.929
	Length of	665	1-14	1.122	0.537	0.778	1.618
			15-19	0.936	0.756	0.617	1.420
			90+	1.051	0.879	0.554	1.995
	Engagement	665	Inpatient only	0.573	0.052	0.327	1.004
			Did not engage	0.855	0.331	0.622	1.173
DEMOGRAPHICS	Age (40-59)	665	Age 18-39	1.050	0.794	0.726	1.520
			Age 60-79	0.663	0.045	0.444	0.991
			Age 80+	0.299	0.049	0.089	0.997
	Employment	647	Medically Retired	1.106	0.812	0.484	2.527
			Retired	0.559	0.027	0.333	0.937
			Unemployed	1.101	0.619	0.753	1.611
	Gender	665	Male	1.328	0.098	0.949	1.860
	IMD Decile	632	IMD 1-5	1.477	0.029	1.041	2.096
ALCOHOL	AUDIT (40)	623	AUDIT 31-39	0.676	0.038	0.467	0.979
			AUDIT 21-30	0.534	0.004	0.349	0.818
			AUDIT <21	0.135	0.000	0.048	0.382
	UNITS	616	Log	1.571	0.000	1.242	1.988
	CIWAR (16+)	624	CIWAR 9-15	0.861	0.471	0.572	1.294
			CIWAR 5-8	0.907	0.655	0.590	1.393
			CIWAR <5	0.379	0.000	0.226	0.633
LIVER FUNCTION TESTS	Albumin g/L	636	Continuous	1.009	0.449	0.986	1.033
	ALT (<41	635	Log	1.406	0.000	1.168	1.693
	Bilirubin	612	Log	1.237	0.013	1.046	1.464
DISCHARGE DIAGNOSIS	Liver Disease	606	Binary	1.258	0.26	0.844	1.876
	Mental	608	Binary	1.211	0.312	0.835	1.756
	Primary	608	Digestive disease	0.908	0.704	0.552	1.494
			Injury	0.859	0.61	0.480	1.538
			Poisoning	1.146	0.605	0.683	1.924
			Unspecified	1.528	0.098	0.925	2.524
			Circulatory,	0.917	0.722	0.570	1.477

Table 26 Additional detoxifications in year 2 (univariate negative binomial regression)

	Variable	N	Category/Var	IRR	P value	Confidence Interval	
ASNS INTERVENTION	EXT-INT	665	Binary	1.720	0.012	1.125	2.628
	Length of INT	665	1-14	1.953	0.008	1.194	3.195
		665	15-19	1.496	0.162	0.851	2.631
			90+	1.387	0.457	0.585	3.289
	Engagement		Inpatient only	1.348	0.337	0.733	2.480
			Did not	0.636	0.051	0.404	1.002
DEMOGRAPHICS	Age (40-59)	665	Age 18-39	0.789	0.402	0.453	1.373
			Age 60-79	0.987	0.96	0.586	1.662
			Age 80+	0.995	0.993	0.333	2.976
	Employment	647	Medically	0.708	0.658	0.154	3.263
			Retired	1.491	0.223	0.785	2.835
			Unemployed	1.245	0.439	0.714	2.172
	Gender	665	Male	1.510	0.096	0.929	2.453
	IMD Decile (6-	632	IMD 1-5	0.954	0.837	0.611	1.490
ALCOHOL MEASURES	AUDIT (40)	623	AUDIT 31-39	0.588	0.049	0.346	0.998
			AUDIT 21-30	0.774	0.349	0.454	1.322
			AUDIT <21	0.339	0.047	0.116	0.988
	UNITS	616	Log	1.179	0.183	0.925	1.502
	CIWAR (16+)	624	CIWAR 9-15	0.835	0.537	0.472	1.479
			CIWAR 5-8	1.350	0.294	0.770	2.366
			CIWAR <5	0.387	0.014	0.182	0.822
LIVER FUNCTION TESTS	Albumin	636	Continuous	0.992	0.64	0.961	1.025
	ALT (<41 ,	635	Log	1.182	0.209	0.910	1.534
	Bilirubin	612	Log	1.274	0.04	1.011	1.604
DISCHARGE DIAGNOSIS	Liver Disease	606	Binary	1.010	0.975	0.548	1.862
	Mental Health	608	Binary	1.785	0.018	1.106	2.883
	Primary Diagnosis (ICD	608	Digestive disease	0.822	0.558	0.427	1.584
			Injury	0.895	0.764	0.433	1.850
			Poisoning	0.192	0.008	0.057	0.647
			Unspecified	1.054	0.883	0.526	2.111
			Circulatory, respiratory, & other	0.757	0.403	0.394	1.454

Table 27 Additional detoxifications in year 1 (multivariate negative binomial regression)

n=625 Variable (reference)	Category/ Variable type	IRR	P value	Confidence Interval	
AUDIT (40)	AUDIT 31-39	0.803	0.287	0.536	1.203
	AUDIT 21-30	0.645	0.075	0.398	1.045
	AUDIT <21	0.218	0.006	0.073	0.645
CIWAR (>15)	CIWAR 9-15	0.879	0.567	0.564	1.369
	CIWAR 5-8	1.132	0.603	0.710	1.805
	CIWAR <5	0.517	0.029	0.286	0.935
Bilirubin	Log	1.261	0.014	1.047	1.518

Table 28 Additional detoxifications in year 2 (multivariate negative binomial regression)

(n=535) Variable (reference)	Category/ Variable type	IRR	P value	Confidence Interval	
Bilirubin	Log	1.443	0.004	1.123	1.853
Mental Health	Binary	1.887	0.017	1.120	3.177

6.8.3 Emergency Department attendances

The results of univariate regressions for the dependent outcome of ED attendances in year 1 are presented in Table 29 below. The model found to be the best fit to predict the outcome using negative binomial regression is summarised in Table 30 (n=593). Anscombe residuals and Q-Q plots are shown in Appendix J, suggesting that the assumptions of the model are met to an acceptable level. The rate of ED attendance in the first year after detoxification was higher for the youngest group, and for the unemployed. Those with the lowest scores on the CIWAR withdrawal scale also had a significantly reduced IRR relative to those with highest scores. An admission diagnosis of a circulatory, respiratory or other disease, or unspecified primary diagnosis were also a significant predictor of an increased rate of ED attendances.

Table 29 ED attendances in year 1 (univariate negative binomial regression)

	Variable	N	Category/	IRR	P value	Confidence Interval	
ASNS INTERVENTION:	EXT-INT (BRIEF-	74	Binary	1.070	0.475	0.889	1.287
	Length of INT	74	1-14	0.714	0.005	0.564	0.903
			15-19	0.646	0.001	0.498	0.838
			90+	0.409	0.000	0.257	0.650
	Engagement	74	Inpatient only	1.278	0.131	0.930	1.757
			Did not engage	1.651	0.000	1.341	2.034
DEMOGRAPHICS:	Age (40-59)	74	Age 18-39	1.427	0.003	1.128	1.805
			Age 60-79	0.980	0.863	0.775	1.239
			Age 80+	1.177	0.500	0.734	1.887
	Employment	72	Medically	2.026	0.007	1.217	3.372
			Retired	1.270	0.12	0.939	1.718
			Unemployed	1.599	0.000	1.240	2.063
	Gender (Female)	74	Male	1.017	0.867	0.834	1.241
	IMD Decile (6-10)	70	IMD 1-5	1.313	0.01	1.068	1.613
ALCOHOL MEASURE:	AUDIT (40)	68	AUDIT 31-39	0.841	0.156	0.662	1.068
			AUDIT 21-30	0.732	0.019	0.564	0.950
			AUDIT <21	0.906	0.575	0.641	1.280
	UNITS	68	Log	1.022	0.607	0.941	1.111
	CIWAR (16+)	69	CIWAR 9-15	1.253	0.092	0.964	1.628
			CIWAR 5-8	1.168	0.274	0.884	1.543
			CIWAR <5	0.686	0.01	0.515	0.913
LIVER FUNCTION TESTS:	Albumin (0-34)	71	Albumin 35+	1.006	0.434	0.991	1.021
	ALT (<41 , normal	71	Log	0.897	0.074	0.796	1.010
	Bilirubin	68	Log	0.869	0.009	0.782	0.965
DISCHARGE DIAGNOSIS:	Liver Disease	68	Binary	1.125	0.366	0.872	1.451
	Mental Health	68	Binary	1.045	0.719	0.823	1.325
	Primary Diagnosis	68	Digestive	0.933	0.662	0.686	1.270
			Injury	1.050	0.783	0.741	1.490
			Poisoning	1.664	0.002	1.211	2.288
			Unspecified	1.501	0.017	1.076	2.092
			Circulatory, respiratory, & other diagnosis	1.150	0.342	0.862	1.533

Table 30 ED attendances in year 1 (multivariate negative binomial regression)

(n=593) Variable (reference)	Category/Variable type	IRR	P value	Confidence Interval	
Age (40-59)	Age 18-39	1.378	0.032	1.027	1.849
	Age 60-79	1.175	0.450	0.773	1.787
	Age 80+	1.342	0.419	0.657	2.741
Employment (Employed)	Medically Retired	1.317	0.421	0.674	2.572
	Retired	1.226	0.428	0.741	2.028
	Unemployed	1.570	0.004	1.153	2.138
		0.927	0.596	0.700	1.227
		0.866	0.381	0.628	1.194
		1.552	0.057	0.987	2.442
CIWAR (16+)	CIWAR 9-15	1.253	0.154	0.919	1.709
	CIWAR 5-8	1.246	0.204	0.888	1.748
	CIWAR <5	0.676	0.041	0.464	0.985
ALT	log	0.886	0.108	0.765	1.027
Primary Diagnosis (ICD F)	Digestive disease	1.191	0.313	0.848	1.673
	Injury	1.142	0.539	0.748	1.742
	Poisoning	1.253	0.257	0.848	1.851
	Unspecified	1.537	0.026	1.053	2.243
	Circulatory, respiratory, & other diagnosis	1.395	0.062	0.983	1.980

6.8.4 Admissions

The results of univariate regressions for the dependent outcome of further admissions in year 1 are presented in Table 31 below. The model found to be the best fit to predict the outcome using negative binomial regression is summarised in Table 32. Anscombe residuals and Q-Q plots are shown in Appendix J, suggesting that the assumptions of the model are met to an acceptable level. The rate of admissions in the first year after detoxification was higher for the oldest groups (60+) and for those who were unemployed or medically retired. A primary diagnosis of a digestive disease and a more damaged liver (lower albumin) also predicted more admissions. Also those with a circulatory, respiratory or other diagnosis or whose primary diagnosis was unspecified had more admissions.

Table 31 Admissions in year 1 (univariate negative binomial regression)

	Variable	N	Category/	IRR	P value	Confidence Interval	
ASNS INTERVENTION:	EXT-INT	741	Binary	1.117	0.253	0.924	1.350
	Length of INT	741	1-14	0.894	0.359	0.704	1.136
			15-19	0.900	0.424	0.695	1.165
			90+	0.641	0.048	0.412	0.997
	Engagement	741	Inpatient only	1.726	0.001	1.268	2.349
			Did not engage	1.376	0.003	1.112	1.703
DEMOGRAPHICS:	Age (40-59)	741	Age 18-39	1.075	0.571	0.837	1.381
			Age 60-79	1.398	0.005	1.109	1.764
			Age 80+	1.757	0.015	1.115	2.770
	Employment	721	Medically Retired	2.150	0.005	1.268	3.646
			Retired	2.121	0.000	1.564	2.877
			Unemployed	1.716	0.000	1.313	2.244
	Gender	741	Male	1.141	0.209	0.929	1.401
	IMD Decile (6-	707	IMD 1-5	1.154	0.178	0.937	1.423
ALCOHOL MEASURE:	AUDIT (40)	689	AUDIT 31-39	0.751	0.023	0.586	0.961
			AUDIT 21-30	0.773	0.057	0.593	1.008
			AUDIT <21	1.197	0.298	0.853	1.681
	UNITS	685	Log	0.917	0.048	0.841	0.999
	CIWAR (16+)	693	CIWAR 9-15	1.299	0.062	0.987	1.709
			CIWAR 5-8	1.433	0.014	1.076	1.908
			CIWAR <5	1.044	0.768	0.784	1.390
LIVER FUNCTION TESTS:	Albumin (0-34)	712	Albumin 35+	0.975	0.001	0.961	0.989
	ALT (<41 ,	710	Log	0.872	0.027	0.773	0.985
	Bilirubin	686	Log	1.054	0.333	0.948	1.171
DISCHARGE DIAGNOSIS:	Liver Disease	682	Binary	1.384	0.013	1.072	1.786
	Mental Health	682	Binary	0.910	0.456	0.710	1.166
	Primary	682	digestive disease	1.318	0.081	0.967	1.797
			Injury	1.103	0.599	0.766	1.587
			Poisoning	1.190	0.320	0.844	1.679
			Unspecified	1.441	0.039	1.018	2.040
			Circulatory, respiratory, & other diagnosis	1.688	0.000	1.263	2.256

Table 32 Admissions in year 1 (multivariate negative binomial regression)

n=598	Category/Variable	IRR	P value	Confidence Interval	
Age (40-59)	Age 18-39	1.215	0.216	0.892	1.654
	Age 60-79	1.443	0.065	0.977	2.130
	Age 80+	2.073	0.032	1.065	4.032
Employment (Employed)	Medically Retired	2.001	0.025	1.092	3.666
	Retired	1.431	0.144	0.885	2.315
	Unemployed	1.604	0.004	1.161	2.215
AUDIT (40)	AUDIT 31-39	0.807	0.142	0.606	1.074
	AUDIT 21-30	0.731	0.056	0.530	1.008
	AUDIT <21	1.235	0.349	0.794	1.922
CIWAR (16+)	CIWAR 9-15	1.182	0.297	0.864	1.617
	CIWAR 5-8	1.288	0.143	0.918	1.808
	CIWAR <5	0.709	0.073	0.487	1.033
Albumin (0-34 liver damage)	Continuous	0.972	0.002	0.955	0.990
Primary Diagnosis (ICD F)	Digestive disease	1.422	0.048	1.003	2.016
	Injury	1.110	0.623	0.731	1.686
	Poisoning	1.228	0.312	0.825	1.827
	Unspecified	1.487	0.043	1.013	2.183
	Circulatory, respiratory, & other diagnosis	1.360	0.092	0.951	1.944

6.8.5 **Time to death analysis**

The results of univariate Cox's proportional hazards model regressions for the dependent outcome of time to death are presented in Table 33 below. The model found to be the best fit to predict the outcome is summarised in Table 34. The plots testing the model assumptions for the included variables are shown in Appendix K, and also provide evidence that the model assumptions are met. Being older, retired or unemployed significantly increased the hazard ratio. Those with below normal albumin (low in chronic liver disease) and three times the normal levels of bilirubin (indicating liver failure) had higher hazard ratios; also those with a circulatory, respiratory or other diagnosis had higher risk. Those with a lower CIWAR withdrawal scale score also had an increased hazard ratio.

Table 33 Univariate analysis for time to death (Cox's proportional hazards model)

	Variable (reference)	N	Category/ Variable type	HR	P value	Confidence Interval	
ASNS INTERVENTION:	EXT-INT (BRIEF-INT)	740	Binary	0.968	0.812	0.739	1.267
	Length of INT (zero days)	740	1-14	1.133	0.453	0.817	1.572
			15-19	1.153	0.432	0.808	1.645
			90+	0.455	0.061	0.200	1.036
	Engagement (Outpatient)	740	Inpatient only	3.979	0.000	2.686	5.893
			Did not engage	1.632	0.006	1.154	2.307
DEMOGRAPHICS:	Age (40-59)	740	Age 18-39	0.348	0.000	0.194	0.623
			Age 60-79	2.612	0.000	1.946	3.508
			Age 80+	3.678	0.000	2.283	5.925
	Employment (Employed)	720	Medically Retired	3.399	0.001	1.628	7.097
			Retired	4.954	0.000	3.046	8.059
			Unemployed	1.770	0.022	1.088	2.881
	Gender (Female)	74o	Male	0.982	0.903	0.735	1.312
	IMD Decile (6-10)	706	IMD 1-5	0.971	0.844	0.727	1.297
ALCOHOL MEASURE:	AUDIT (40)	688	AUDIT 31-39	0.388	0.000	0.254	0.592
			AUDIT 21-30	0.345	0.000	0.224	0.530
			AUDIT <21	0.521	0.002	0.343	0.792
	UNITS	684	Log	0.820	0.000	0.745	0.904
	CIWAR (16+)	692	CIWAR 9-15	1.513	0.093	0.933	2.454
			CIWAR 5-8	2.641	0.000	1.663	4.193
			CIWAR <5	3.049	0.000	1.957	4.751
LIVER FUNCTION TESTS:	Albumin (0-34)	711	Albumin 35+	0.918	0.000	0.902	0.935
	ALT (<41 , normal range)	709	Log	0.708	0.000	0.587	0.854
	Bilirubin	685	Log	1.505	0.000	1.321	1.715
ADMISSION DIAGNOSIS:	Liver Disease	681	Binary	1.828	0.000	1.334	2.506
	Mental Health	681	Binary	0.335	0.000	0.204	0.550
	Primary Diagnosis (ICD F)	681	Digestive disease	1.513	0.068	0.970	2.358
			Injury	0.900	0.728	0.496	1.632
			Poisoning	0.604	0.127	0.316	1.154
			Unspecified	1.284	0.349	0.761	2.165
			Circulatory, respiratory, & other diagnosis	2.822	0.000	1.917	4.153

Table 34 Predictors of time to death (Cox's proportional hazards model)

n=589 Variable (reference)	Category/Variable type	HR	P value	Confidence Interval	
Age (40-59)	Age 18-39	0.361	0.007	0.173	0.753
	Age 60-79	1.672	0.025	1.066	2.624
	Age 80+	1.793	0.091	0.911	3.530
Employment (Employed)	Medically Retired	1.695	0.219	0.730	3.936
	Retired	2.294	0.009	1.232	4.272
	Unemployed	1.815	0.033	1.050	3.140
CIWAR (16+)	CIWAR 9-15	1.582	0.084	0.941	2.662
	CIWAR 5-8	1.956	0.010	1.174	3.259
	CIWAR <5	1.688	0.041	1.023	2.784
Albumin (35+)	Albumin (<35)	1.479	0.023	1.056	2.070
ALT	log	0.795	0.048	0.633	0.998
Bilirubin*	Log	1.496	0.000	1.261	1.775
Mental Health	Binary	0.591	0.052	0.348	1.004
	Digestive disease	0.912	0.719	0.551	1.510
	Injury	0.604	0.132	0.313	1.164
	Poisoning	0.895	0.752	0.449	1.782
	Unspecified	1.245	0.441	0.713	2.176
	Circulatory, respiratory, & other diagnosis	1.631	0.033	1.041	2.554

*Bilirubin>61 raised the HR by three times

6.9 Adjusted comparisons of key outcomes between service pathways

The results are presented for the comparison of the main outcomes using a forwards step model to account for the influence of confounding factors. The results of the comparison of the two pathways, taking into account confounding baseline variables, are shown in table 35 to table 39. When confounding factors were taken into account there was no significant difference between any of the outcomes for the BRIEF-INT and EXT-INT groups.

Table 35 Comparison of intervention – additional detoxes in year 1 (negative binomial regression)

Variable added to model	N	IRR EXT-INT (Ref BRIEF-INT)	P value	Confidence Interval	
Intervention	741	1.428	0.02	1.056	1.929
Age	741	1.379	0.038	1.018	1.869
Gender	741	1.351	0.053	0.996	1.834
Employment	721	1.295	0.105	0.947	1.772
IMD	688	1.311	0.127	0.926	1.855
AUDIT	646	1.262	0.216	0.873	1.824
Units	621	1.258	0.233	0.863	1.833
CIWAR	611	1.292	0.185	0.884	1.889

***Variables added into negative binomial model accumulatively to demonstrate impact of compounding**

Table 36 Comparison of interventions – additional detoxes in year 2

Variable added to model	N	IRR EXT-INT (Ref BRIEF-INT)	P value	Confidence Interval	
Intervention	535	1.323419	0.261	0.811818	2.157426
Age	535	1.297223	0.303	0.790495	2.128776
Gender	535	1.280531	0.329	0.779135	2.104589
Employment	524	1.315834	0.288	0.792877	2.183719
IMD	495	1.470512	0.181	0.835595	2.587864
Audit	483	1.417094	0.248	0.784854	2.558638
Units	466	1.409622	0.273	0.762761	2.605057
CIWAR	466	1.441782	0.243	0.780175	2.664448

***Variables added into negative binomial model accumulatively to demonstrate impact of compounding**

Table 37 Comparison of interventions – ED attendances in year 1

Variable added to model	N	IRR EXT-INT (Ref BRIEF-INT)	P value	Confidence Interval	
Intervention	741	1.070	0.475	0.889	1.287
Age	741	1.071	0.472	0.888	1.291
Gender	741	1.068	0.494	0.885	1.287
Employment	721	0.923	0.416	0.760	1.120
IMD	646	0.886	0.279	0.712	1.103
Audit	642	0.887	0.286	0.712	1.105
Units	621	0.895	0.333	0.715	1.120
CIWAR	611	0.906	0.398	0.721	1.139
***Variables added into negative binomial model accumulatively to demonstrate impact of compounding**					

Table 38 Comparison of interventions – admissions in year 1

Variable added to model	N	IRR EXT-INT (Ref BRIEF-INT)	P value	Confidence Interval	
Intervention	741	1.117	0.253	0.924	1.350
Age	741	1.155	0.141	0.953	1.399
Gender	741	1.151	0.151	0.950	1.395
Employment	721	1.058	0.577	0.869	1.288
IMD	688	1.065	0.563	0.860	1.318
Audit	646	1.085	0.469	0.869	1.355
Units	621	1.102	0.401	0.879	1.382
CIWAR	611	1.090	0.463	0.866	1.373
***Variables added into negative binomial model accumulatively to demonstrate impact of compounding**					

Table 39 Comparison of interventions – survival analysis

Variable added to model	N	HR EXT-INT (Ref BRIEF-INT)	P value	Confidence Interval	
Intervention	740	0.968	0.812	0.739	1.267
Age	740	1.125	0.397	0.857	1.477
Gender	740	1.127	0.391	0.858	1.480
Employment	720	1.074	0.618	0.812	1.419
Audit	677	1.156	0.332	0.863	1.548
Units	651	1.173	0.297	0.869	1.582
CIWAR	641	1.167	0.315	0.863	1.578
***Variables added into Cox's proportional hazard model accumulatively to demonstrate impact of compounding**					

6.10 Summary

The cohort consisted of 742 patients living in the catchment area of a general hospital who had an alcohol detoxification, usually alongside an admission, but occasionally as a result of an ED attendance or out-patient referral. The most common reason (25%) for admission was directly alcohol related (icd-10 F) such as alcohol withdrawal or poisoning. The members of the cohort had a high load of chronic physical health conditions, and more than a third were admitted due to a physical disease (liver, circulatory and respiratory diseases being most common). Half had past mental health issues, a fifth had a mental health diagnosis on admission, and deliberate poisoning was a common reason for admission. Falls were a common reason for admission in the older patients.

The patients who engaged with the ASNS as outpatients after detoxification (33%) were disproportionately younger, employed, and having an icd-10 F or liver disease primary diagnosis; this group had the best survival rates which was more strongly associated with these baseline factors (other than liver disease) than the effect of the intervention. The patients who had longer admissions after detoxification were seen by the nurses on the wards (13%), and had the highest mortality. Earlier death was associated with being retired or unemployed, having a lower CIWAR score, and a primary admission diagnosis of circulatory, respiratory or other disease, or blood results indicating liver damage; overall approximately 25% of the cohort died within three and a half years.

For those who survived, there was a reduction in further detoxifications, admissions and ED attendances observed over a period of four years. Detoxifications in year one (22%) were more frequent for patients who had more severe dependency or higher bilirubin. Detoxification in year two (16%) was more common in those with a mental health diagnosis and again those with high bilirubin. Approximately half the patients returned to ED the following year and this was more common for the youngest age group (18-39), the unemployed, and those with circulatory, respiratory and other or unspecified diseases. Over half of the patients returned for further admissions during the following year; this was more common for the over sixties, the unemployed or medically retired, and those admitted due to a diagnosed disease or undiagnosed symptoms.

The patients who were in the city pathway and could access the extended hospital based intervention were significantly younger, had more severe dependence, and more past admissions and ED attendances. Patients in both pathways engaged in follow up with the ASNS at a similar rate; uptake of other specialist alcohol services was low, and only slightly better when the hospital based intervention was an option (approximately 9%). GP prescribing for dependence was also very low after detoxification in the city group (3%). When confounding factors were taken into account as far as possible, there was no difference in the outcomes for the two groups.

Chapter 7: Quantitative Discussion

In this chapter the quantitative results are discussed in the light of the literature presented in the first two chapters. Prior to this the strengths and weaknesses of the analysis are discussed, in order to allow the reader to consider the discussion in this light.

7.1 Strengths and weaknesses

Hospital, primary care and NDTMS data were collected from all the patients who underwent a detoxification with the ASNS, providing insights into a group of patients about whom little is known. The primary strength of using these data was that they reflected the real-life implementation of the services. This allowed understanding of the uptake of services and the characteristics of the whole patient group, which would be difficult to achieve via a prospective study since the consent process would potentially select out the most vulnerable patients. This study focused on one hospital site, and more research is needed to establish if the findings are similar in other settings.

In any routinely collected data for clinical purposes, clinical and administration errors, inconsistencies and omissions can be expected, and data cleaning could not address all of these. Recording of hospital events (HT), alcohol specialist treatment events (NDTMS), deaths (NHS Digital), and the primary care read codes used by CHIA follow nationally standardised processes, but there are some variations in usage. The Alcohol Use Disorders Identification Test (AUDIT) and the Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWAR) are well-established clinical measures and have good test-retest reliability and internal consistency (Reinert and Allen 2002; Sullivan et al. 1989). Although there were some inconsistencies in the ASNS dataset, the selected variables were considered to be reliably entered into the data system, with a clear interpretation and mostly complete. Another limitation was that it was not possible to obtain data for contact with other hospitals (due to changes in national data procedures), as some members of the cohort could have been seen in other parts of the country.

Although individual variables were mostly complete, the amount of missing data accumulated in the regression analysis. Appendix L shows an analysis of the missing data by variable and as a whole for the first regression analysis on engagement. Several patterns can be observed in this data. Firstly, a number of variables were more complete in the oldest age group and least complete in the youngest (employment, diagnosis, deprivation score, blood tests). In contrast the AUDIT and CIWAR were least complete in the oldest and retired. Some variables were less

complete for the employed (Diagnosis, ALT) or unemployed (IMD). There were also more missing data for those who had a higher AUDIT score across several variables (Diagnosis, IMD, ALT, CIWAR). When the overall missing data were analysed for the first multivariate regression analysis (see Appendix M), it was found that those with missing data were significantly younger, had a higher median AUDIT score, and were more commonly employed. Thus there was a bias in the data which could have impacted the results. Imputation is under consideration for further work.

Overall the power of the study was considered to be good, based on the size of the cohort (N=742). The use of a negative binomial regression model for count data provided a more sensitive statistical analysis than if a binary model had been used. Missing data could have occurred for clinical reasons such as a person being too unwell or intoxicated at the time of assessment. The amount of data that were missing was not substantial for any individual variable, but when combined in the regression analysis the number of patients included in a particular analysis declined significantly in some instances, possibly influencing the power to detect significant differences.

Due to the real-life nature of the study there was also some inconsistency in how the pathways were implemented, with some BRIEF-INT patients receiving longer interventions based on clinical need. As a result the median time in the extended intervention was only a few weeks longer than for the brief intervention (EXT-INT: 30 days; BRIEF-INT: 15 days). This could have impacted the power to detect a difference between the two pathways. Another factor that would have reduced the power of the study was that over 50% did not engage in either intervention after detoxification.

One limitation of this analysis is that these outcomes provide a limited view of recovery, focusing on negative outcomes rather than positive changes. If someone is in recovery we would expect to see fewer alcohol-related hospital events, but an absence of hospital events does not mean someone is in recovery. The reverse is also true – someone could progress in recovery and still need contact with the hospital. Nevertheless, the advantage of using these events as outcome measures is that they are objective events, routinely measured, and likely to reduce during recovery; they are also highly relevant to service commissioning and decision making.

Some limitations of the study design may have influenced the outcomes. This was not a random controlled trial, and thus baseline differences were controlled as far as possible but might still have had an impact on the outcomes. In comparison to the BRIEF-INT group, the EXT-INT group were younger, more likely to live in areas with greater deprivation, and had higher scores related to severity of alcohol problem (Units, AUDIT and CIWAR scores). There was no information available regarding marital status or living situation in the quantitative data. Local authority data

suggest that the number of people who were single and living alone is likely to be significantly higher in the city group (EXT-INT) (Hampshire County Council 2013); this factor has been shown to predict poorer drinking outcomes in several cohort studies (Walter et al. 2006; Muller et al. 2008; Schellekens et al. 2015). A recent PhD thesis by Chambers (2018) reports that alcohol dependent patients identified in a general hospital setting who were living with others were 169% (Odds Ratio 2.69) more likely to make a clinically significant change in their level of psychological dependence within six months than those living alone (N=87; p=0.058). Thus the EXT-INT group could have been expected to have worse outcomes due to this factor. Being unable to control for this potential confounding factor was another limitation of the comparison of the pathways.

7.2 Characteristics of the patient group

Between April 2012 and the end of December 2014 there were 742 people living in the catchment area of a general hospital (serving a population of 650,000) who had a first detoxification episode after referral from within the hospital to the ASNS. A further 318 people returned for one or more additional detoxifications during the same period. This equates to approximately 0.16% of the population who had an ASNS detoxification during this two-year-nine-month period. The number of people in alcohol treatment in England in 2013–14 was 79,411 (PHE 2018) which equates to approximately 0.12% of the population (approximately 54 million in 2013). Within this there were 20,767 pharmacological interventions (including detoxification or relapse prevention) as part of treatment interventions. As there would be some clients who attend for repeated detoxifications in a year the proportion having a pharmacological intervention is not known, but it would be less than 0.04% of the population. Taken within this context, the ASNS sees a significant number of people for detoxification, and detoxification in a general hospital was more common than planned detoxification through community services when compared to national figures.

Based on the quantitative analysis (N=742) the patients using the ASNS for detoxification for the first time were predominantly male (68%), which is a higher proportion than males using alcohol treatment services (61%) (PHE 2017). Almost all the patients were identified as white British (98%), in spite of the population of the city area being 84% white British and that of the town areas approximately 95% (Hampshire County Council 2013). National figures indicate that 90% of those in alcohol treatment in England (2016–17) are white British. This suggests there was either less need or less access to alcohol detoxification with the ASNS in other ethnic groups; this may reflect less severe drinking in some minority cultural groups. The median age group of the cohort (50 to 54 years) compares to a national median of 46 years in alcohol treatment (PHE 2018), and a greater proportion of the cohort were over 60 (29%) than those in a treatment group (12%). Only 20% were employed and half were unemployed, the remainder being retired, medically retired or

on long-term sickness. Considering that the majority of the sample fell within the working age bracket, this was a high level of unemployment.

There was no standard measure of dependence such as the SADQ or LDQ routinely collected for the full sample; the AUDIT is generally used as a screening tool. Several researchers have suggested that the AUDIT can be a useful measure of dependence rather than solely a screening tool (Donovan et al. 2006), since there is a high correlation between the AUDIT and other dependence measures. Almost 90% of the cohort identified had an AUDIT score greater than 20, a score which in community populations has been shown to be associated with more negative consequences of drinking, increased craving, increased withdrawal and physical dependence, and more prolonged heavy drinking. Those with an AUDT score over 20 have also been found to be more open to change than those with less severe drinking problems, are often attempting intermittently to change, and frequently endorse abstinence (Donovan et al. 2006). The median score on the AUDIT was 33, the average number of weekly units was 140, and all participants needed detoxification; together, these factors suggest a moderate-to-severe level of dependence among the majority of the sample if a clinical definition is used (NICE 2011).

It was expected that there would be a high number of comorbid physical and mental health conditions present in this group of patients (Jané-Llopis and Matytsina 2006; Schoepf and Heun 2015). The primary care data that summarised comorbidities for the EXT-INT group (BRIEF-INT group data were incomplete) suggested that 45% had one of the identified chronic physical health conditions prior to baseline, and 55% had a past episode of anxiety or depression identified in primary care. There had been a significant amount of hospital contact in the year prior to detoxification (40% attended outpatient appointments, 50% had ED attendances and 35% had admissions). This analysis did not present a complete picture of comorbidities, but overall the combined data suggests that comorbid physical and/or mental health problems were common in this group prior to contact with the hospital.

Approximately 20% of those admitted to hospital had a mental health diagnosis (diagnoses 1 to 6), of whom 27 were recorded as having attempted self-harm through poisoning; the clinical diagnosis was usually depression or an anxiety disorder. An additional group of people had been recorded as attempting to self-harm through poisoning (n=51) but did not have a mental health diagnosis at admission, suggesting a high degree of distress in this group, even if they did not present with a diagnosable mental health problem. As this is an admission diagnosis and is in a medical setting, the numbers with mental health problems in the cohort are likely to be higher than those identified in hospital. There were significantly more females with a mental health diagnosis at admission than males; females more often had poisoning (usually a deliberate

overdose) as a primary reason for admission. This is in line with findings from Petit et al. (2017) that women attending detoxification units had higher rates of anxiety and depression than males. Younger patients (aged 18–39) were 68% more likely to come back to the ED the following year; this age group were the heaviest drinkers, had the highest rates of admission as a direct consequence of alcohol (intoxication or withdrawal) and the highest rate of deliberate overdoses.

It was anticipated from a previous study of hospital alcohol dependent patients that the patient group would range from 'pre-contemplative' to 'ambivalent' about change to 'taking action' (Stewart and Connors 2007). The analysis of the cohort found that half the patients did not engage in the ASNS, and it is likely that there was a proportion of this group who were not open to change. There was a lower survival rate in those who did not engage, likely related to baseline factors which differentiated this group, such as age and a disease based primary diagnosis. However in those that survived for four years there was a similar pattern of reducing hospital events to that observed in the group who engaged in the ASNS intervention. This suggests some people may have recovered unassisted or with alternative sources of help, but it was not possible to assess the size of this group.

7.3 Patterns of deaths and hospital events over time

Based on the survival analysis, approximately 90% of the cohort survived to one year, 80% survived to two-and-a-half years, and 70% are estimated to have survived to five years after their first detoxification with the ASNS. In comparison, people admitted to an English hospital who have alcohol dependence (N=23,371) were found to have hospital mortality rates approximately two-and-a-half times those of the wider hospital patient group (Schoepf and Heun 2015). The hospital mortality rate for the alcohol dependent group was 20.4% within two-and-a-half years. Almost half of the ASNS cohort died outside of hospital, suggesting there may have been significantly lower overall mortality in this cohort than those in Schoeph and Heun's study which excluded out of hospital deaths. There was a five-year survival rate that was close to that of people diagnosed with non-Hodgkins lymphoma (not age adjusted), but lower than those diagnosed with breast, uterus or prostate cancer (Cancer Research UK 2018).

It was observed that the pattern of hospital detoxification, ED attendance and admissions steadily declined over a four-year period in those who survived; this was in line with the findings of Ponzer (2002) in a smaller study (n=50) of detoxification episodes. This pattern suggests that there was a reduction of harm over time for survivors, and this also supports findings that improvements are common in the wider alcohol dependent population, as found by Dawson et al. (2005).

7.4 Factors predicting outcomes

Table 40 summarises the significant (p<0.1) results from the multivariate regression analysis of the retrospective data.

Table 40 Summary of significant results from multivariate regressions – all outcomes

		ENGAGE OR	DETOX Year 1 IRR	DETOX Year 2 IRR	ED Year 1 IRR	ADMISSION Year 1 IRR	TIME TO DEATH HR
AGE (40-59)	**18-39** **60-79** **80+**	- - -	- - -	- - -	1.378 - -	- 1.443 2.073	0.361 1.672 1.793
EMPLOYMENT (Employed)	**Retired** **Medically Retired** **Unemployed**	0.208 0.227 0.550	- - -	- - -	- - 1.570	- 2.001 1.604	2.294 - 1.815
AUDIT (40)	**31-39** **21-30** **<21**	- - -	- 0.645 0.218	- - -	- - -	- 0.731 -	- - -
CIWAR (>16)	**9-15** **5-8** **<5**	- 0.542 0.260	- - 0.517	- - -	- - 0.676	- - 0.709	1.582 1.956 1.668
MENTAL HEALTH		-	-	1.887	-	-	0.591
LIVER DISEASE			-	-	-	-	-
PRIMARY ADMISSION DIAGNOSIS (F)	**Digestive disease** **Injury** **Poisoning** **Unspecified** **Circulatory, respiratory & other diagnosis**	- 0.417 0.424 0.579 0.368	- - - - -	- - - - -	- - - 1.537 1.395	1.422 - - 1.487 1.360	- - - - 1.631
BILIRUBIN	**Continuous (log)** **High = liver failure**	-	1.261	1.443	-	-	1.496
ALBUMIN	**Continuous** **Low = liver damage**	-	-	--	-	0.972	1.479
ALT	**Continuous (log)**						0.998
ENGAGEMENT (engaged)	**Inpatient only** **Not engaged** **Length of intervention**	n/a	- - -	- - -	- - -	- - -	- - -

7.4.1 Age, employment, gender and IMD

Gender was not a protective or risk factor in relation to the outcomes, which is a common finding in post-detox cohort studies (Walter et al. 2006; Muller et al. 2008; Picci et al. 201; Running Bear et al. 2014; Engel et al. 2015; Constant et al. 2015). This suggests that while there may be gendered differences in co-occurring mental health issues, this might be balanced by other gender relevant factors. Age was not a predictor of further detoxification episodes, which is in keeping with the literature on post-detox outcomes (Walter et al. 2006; Muller et al. 2008;

Running Bear et al. 2014; Engel et al. 2015; Constant et al. 2015; Schellekens et al. 2015). Younger patients were more likely to return to ED, while the over 60s were more likely to be admitted.

Those who were unemployed were 45% less likely than the employed to engage in the ASNS intervention, and those who were retired or medically retired were nearly 80% less likely to engage. This was a surprising finding because it might be expected that those who were employed would find it more difficult to attend hospital outpatient appointments and be less likely to engage. A number of studies have identified that alcohol dependence in people at retirement age can be triggered by associated changes in lifestyle, and increased experiences of bereavement, loneliness and isolation (Boyle and Davis 2006), which often remains a hidden problem. Further research may be needed to gain insight to the experiences of older and unemployed groups that prevent engaging in help.

In the post-detoxification literature, employment status has generally not been associated with relapse to drinking (Walter et al. 2006; Muller et al. 2008; Picci et al. 2014; Constant et al. 2015; Engel et al. 2015; Schellekens et al. 2015). In this study employment was also not directly related to further detoxification in the multivariate analysis. Constant et al. (2015) found no significant relationship between employment and later ED attendances in those who had a detoxification in a specialist hospital ward. In contrast, for this cohort unemployed status predicted nearly 60% more ED events and admissions in the first year, and survival decreased correspondingly. This may be related to a higher number of other health problems in the unemployed group, but it also seems likely that the stress of unemployment itself might be a factor in worsening health.

Living in an area of higher overall deprivation (IMD 1–5) was not a significant factor in the multivariate analysis. This suggests that the level of deprivation in the area where someone lives might not be as important as factors directly related to the individual, such as unemployment.

7.4.2 **Severity of alcohol problem**

Some post detoxification cohort studies have found an association between the severity of alcohol dependence and relapse or readmissions for detoxification (Constant et al. 2015; Schellekens et al. 2015). However, other studies have not found a significant association (Picci et al. 2014). AUDIT scores can be considered to be closely related to severity of alcohol dependence. In this study, during the first year there was a clear link between severity of dependence as indicated by the AUDIT and further detoxifications, but by the second year this was no longer a significant factor. This suggests that those with more severe dependence take longer to decrease or stop their drinking and could experience more setbacks. This supports the model of change

presented by Kougali et al. (2017) in that those with more severe dependence can fluctuate between recovery and relapse until they learn to stabilise their recovery.

CIWAR measures the severity of withdrawal symptoms experienced, which can differ depending on the amount of time someone is alcohol-free before starting detoxification. Those with the highest CIWAR scores (>8) were more likely to engage in the post-detox intervention, possibly due to the negative experience prompting help-seeking; this is in keeping with the literature that suggests negative impact of experiences directly related to alcohol can precede help seeking (Wing 1995). It was unexpected that lower CIWAR scores were strongly associated with earlier death (66–109% increased relative risk compared to the highest scoring group), but less hospital events. A lower withdrawal score was more common for those with a disease or injury diagnosis and those with lower albumin (indicating liver damage), but it is not clear why this is the case or why having controlled for these aspects in the regression, there is still a significant effect; this might merit further research.

7.4.3 Diagnosis and liver function tests

Those who had an icd-10 F or digestive diagnosis were more than 50% more likely to engage in the post-detox intervention, than those with another diagnosis or an unspecified reason. This suggests that those people who came to hospital for a reason directly connected to alcohol were more likely to accept help offered from the ASNS. The possibly reasons for this will be explored in the combined analysis in Chapter 8.

Several primary discharge diagnoses were associated with an increased risk of hospital events. Digestive disorders predicted increased admissions, and those with circulatory, respiratory, other less common diagnoses or undiagnosed conditions or had more of both ED attendances and admissions. These differences are likely to reflect the needs associated with the different physical conditions. In addition, the liver function tests for bilirubin and albumin indicated that a higher degree of liver damage was associated with a higher risk of negative outcomes. These findings are likely to reflect a higher need for detoxification and more admissions due to liver damage.

Having a mental health diagnosis at admission was a significant predictor that an individual would return for additional detoxification episodes in the second year after baseline. This concords with the literature that suggests mental health problems increase the relapse risk (Dreiesden et al. 2001; Schellekens et al 2015).

Higher rates of morbidity were associated with those admitted for circulatory, respiratory, or other diseases or those with a higher bilirubin and lower albumin (both indicating liver disease).

The survival rate was particularly low for those in the cohort whose admission lasted longer than their detoxification and who did not engage in support from the ASNS after discharge. This suggests that a significant number of people in the cohort already had life-limiting health conditions when they had their first contact with the ASNS, and some are likely to have been terminally ill. The implication is that it may have been too late for recovery focused interventions for this group, which is consistent with the nurses' reports that they provide many people with end-of-life care. Earlier intervention for those in contact with the hospital and primary care may be important to explore further.

7.5 Comparing the pathways

Service use within the pathways post-detoxification was summarised using the ASNS, CHIA and NDTMS data. Approximately a third of the cohort engaged with post-detox ASNS interventions following discharge from hospital, suggesting they were open to receiving help via this service. A further 13–14% were engaged while they were inpatients on the wards, but did not attend follow up outpatient appointments after discharge. In light of the estimates of the numbers of people with alcohol dependence who are potentially open to change (57%, suggested by Pryce et al. 2017), a significant proportion of the post-detoxification group had an intervention after detoxification with the ASNS. There was less engagement with the alcohol specialist services; in particular, those that were community-based were hardly accessed at all within twelve weeks of detoxification. This suggests that the PHE (2014b) recommendation of referral on to community services from alcohol specialist nurse services might need reconsideration. When patients were given the option to see specialist services in the hospital this increased engagement, which suggests that some patients do want a specialist alcohol service when located in the hospital setting. Parkman et al. (2017) found that those using the ED for alcohol-related conditions were not interested in alcohol specialist services, but this study suggests that at least some of those with more severe alcohol problems do want specialist alcohol help; this does not appear to be the case for the greater proportion of the patients.

The null hypothesis was that there would be no difference in outcomes between the groups, and the positive hypothesis was that the EXT-INT would experience fewer hospital events (detoxification, admissions and ED attendances) and a lower rate of deaths. Given that hospital-based intervention was taken up by patients more than the community pathways, there was a rationale to expect improved outcomes. However, there was no significant difference found between the outcomes in the regression analysis when all available baseline factors were taken into account, thus confirming the null hypothesis. The limitations of the study discussed earlier mean that it is difficult to draw a firm conclusion here.

Cobain et al. (2011) used a natural study design to compare an ASNS intervention to treatment as usual (in a different hospital) for alcohol dependent patients, showing a significant reduction in dependence in the intervention group compared to the control group. In the Cobain study the intervention was described as brief, but could be extended by up to twenty sessions if needed; this appears to be comparable with the provision of the ASNS in the current study, although the participants were not restricted to those needing detoxification. In the current study both groups received daily support during detoxification from the ASNS and were able to access at least one follow up appointment, while the median length of the EXT-INT was only two weeks longer than the BRIEF-INT. It is possible that the early part of the intervention had most impact, but it was not possible to explore this factor in this retrospective analysis.

7.6 Summary

The ASNS cohort represents a group of moderately-severely alcohol dependent people with significant physical and mental health comorbidity and high unemployment. Compared to a community alcohol treatment group this cohort was older, and identified almost exclusively as white British. Approximately half the cohort accessed a post-detoxification intervention with the ASNS, which is a significant number considering the difficulty of engaging those with alcohol dependence and the low numbers who are reported to be in treatment. Referral on to specialist alcohol community services after detoxification led to very few new episodes of treatment, with more episodes for those with the option of hospital-based recovery services. This finding indicates that recommended pathways (PHE 2104) from identification of alcohol dependence in hospital to engagement with alcohol treatment services need to be reconsidered, and the ASNS follow up outpatient appointments represents a promising approach to successful engagement. Older and unemployed patients were more difficult to engage in post detox interventions, which merits further study.

The outcomes of further detoxification, admission, ED attendances and survival were compared for the two pathways. No difference between the brief and extended hospital interventions were found with the method employed, so the null hypothesis could not be rejected. Severity of alcohol dependence, physical and mental health co-morbidity and employment status had a significant impact on outcomes, and these findings were generally in concordance with the literature. In the following chapter the qualitative findings will be used to shed light onto these findings.

Chapter 8: Integration and Conclusions

In this chapter the extent to which the research questions has been answered will be discussed. The first research question was addressed solely from the qualitative analysis.

- What is the process of change in early recovery for this patient group?

Next, an integration of the qualitative and quantitative results is presented in order to arrive at an in-depth as well as a broader understanding of the remaining research questions:

- What treatment and non-treatment factors are seen as initiating, supporting and creating barriers to recovery?
- Is there a difference between the recovery outcomes for alcohol dependent patients following these two pathways?

The quantitative data was described numerically: the primary admission diagnosis, use of services and survival. The statistical analysis highlighted significant patterns of association in the data. The qualitative data provides a complementary and rich description of events, their impacts on people, and insights into how people went about making changes to their lives. This combined analysis does not aim to demonstrate convergence, but rather offers complementary perspectives that, when considered together, enhance understanding of the topic.

The relevance of this knowledge to commissioners, service providers, clinicians and the recovery community will then be discussed, as well as some implications for further research. Some final reflections on the methods used in this study and the implications for future research follow, before concluding this thesis.

8.1 The process of change in early recovery from alcohol dependence following detoxification in a general hospital

The process of change was mapped out using a thematic analysis of patient accounts of change. The accounts of the patients after alcohol detoxification in a general hospital had many aspects in common with similar reports from other studies that have focused on the patients' view of change through AA or using specialist alcohol treatment. A common picture is that a crisis serves as a catalyst for change, following which a period of active change occurs; the changes gradually become more stable over time if recovery progresses. Similar to earlier studies discussed in the literature review, participants in this study emphasised the facilitative role of a range of relationships with family members, peer groups, health professionals and therapists; peer groups had a powerful influence on some participants, but people also made progress without using peer

groups. The analysis of the key themes in patients' accounts of change overlapped with earlier studies of change in alcohol dependence. This study contributed by mapping out these changes and in confirming they apply to the patient group accessing detoxification in a general hospital.

The patient-centred account of recovery lent itself to the application of behavioural principles and Relational Frame Theory (RFT), building on the contextual behavioural theory (CBS) of recovery for this group. This analysis drew out the role of different types of interpersonal interaction in developing aspects of awareness and the adoption of new rules for abstinence, day-to-day living and facing problems. This analysis went beyond the usual CBS analysis of change through ACT interventions in identifying potential key processes of change that operate within a variety of different types of intervention. This highlights the potential for CBS to contribute to a new understanding of change across different interventions.

Prochaska and Diclememente's (1982) Transtheoretical Model of Change has had a considerable influence on treatment interventions in a community setting over several decades, and continues to have influence on the implementation of services. This model proposes that people need to go through a process of contemplation about the pros and cons of drinking before they are ready to change, and a preparation phase is necessary. Community based interventions attempt to prepare people prior to detoxification, aiming to reduce relapse. In contrast, people who experience detoxification in a general hospital are often propelled by a desire to change following a crisis event. Providing a post detoxification intervention in a general hospital breaks the mould for how interventions are normally delivered, but is a good fit with how change is described by people who have recovered or are recovering.

One contemporary theory of recovery, the Social Identity Model of Recovery (SIMOR; Best et al. 2015), also recognises that change occurs in the context of a range of social interactions. This theory proposes that when someone sees group members as similar to themselves, they identify with the group and are then able to benefit from the group. Their behaviour becomes informed by the normative expectations of the group through a process of integration of group norms into a sense of self, or a new social identity. The analysis in this thesis both corresponds with and diverges from this theory. Here, identification with the group is also seen as important; seeing similarities between their own and others' experiences, participants engaged with groups, becoming increasingly self-aware and adopting new rules for living. However, the central role of a recovery identity in driving behavioural change is not seen as necessary to this process; expressions of identity related to recovery, such as "I'm a non-drinker", came after behavioural change had been stabilised, and this was not necessarily central to sense of self or identity. A CBS analysis has the potential to offer a different perspective on the role of identity in recovery.

This study has made a contribution to understanding the process of change in early recovery; this is a large topic and there are still areas that are not understood. Future research might explore the role of awareness and rules in recovery; also, whether group identification rather than group identity is a more useful concept in understanding the process of change in a group context. Failure in group identification might also be explored as a likely process explaining why people don't engage in groups. It is also proposed that the powerful impact of one-to-one relationships should not be overlooked in understanding recovery, in favour of group processes which may be only part of the picture. It is important that the addiction field makes progress in this area towards a consensus about the nature of the recovery process. It is likely that only then recovery interventions will be implemented in a way that reflects the needs of those in recovery.

8.2 Integration of the qualitative and quantitative analyses

This section addresses the second and third research questions. Both treatment and non-treatment factors that contribute to initiating and supporting recovery have been identified in the qualitative and quantitative analysis and these are combined here; barriers to recovery are also addressed. Following this the findings of the qualitative study are used to gain insight into the observed outcomes when the pathways were compared in a natural experiment.

8.2.1 **The patient group**

One of the benefits of a mixed methods design is that it can provide useful information about the generalisability of qualitative findings (Fielding 2012). An important consideration in this mixed methods study was the extent to which the samples in the two aspects of the study are comparable. The qualitative sample (N=24) was selected as a purposeful sample and therefore was not expected to represent the cohort (N=742) proportionally. Furthermore, the qualitative interviews took place at a later time than the cohort data encompassed.

Table 41 below gives a comparison of the two samples in order to identify similarities and differences between the two groups. The recruited participants (N=24) were more often female (almost half) than in the retrospective sample, and those who were employed took part more frequently and were retained for a longer period in the study. Although the participants had a range of physical health conditions, those with the poorest prognosis were more difficult to engage or retain. The group attending interviews also differed in that half had prior detoxification episodes with the ASNS, and there was a higher severity of alcohol dependence in this group. Thus the thematic analysis focused on those with a higher potential for recovery in terms of their physical health and employment, but also on those with a more severe alcohol dependency.

The individuals interviewed usually sought assistance in recovery. The statistical analysis demonstrated that there is a wider group who did not engage in ASNS help after detoxification, about whom little is known; some of this group were clearly seriously ill, while others might have recovered unaided or might be in contact with other types of support. The participants also had more severe AUDIT and CIWAR scores and frequently had mental health issues, which could indicate they would be more inclined to abstinence; this cannot be assumed for the whole group, as some people with less severe issues may have been able to reduce their drinking.

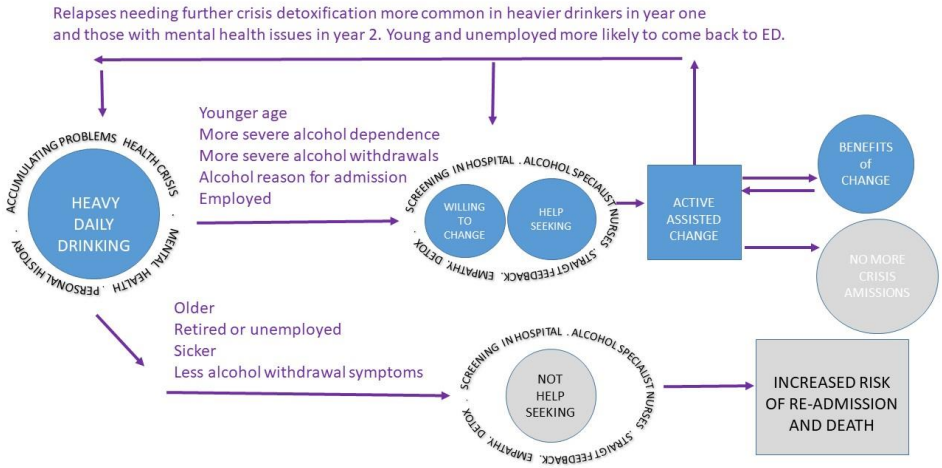
Table 41 Comparison of two samples

Baseline variable	Category	Cohort (N=742)	Interviews (N=24)
AGE	**18-39** **40-59** **60-79** **80+**	20% 50% 25% 5%	21% 71% 8% 0%
GENDER	**Male** **Female**	68% 32%	54% 46%
EMPLOYMENT	**Employed** **Retired** **Medically Retired** **Unemployed**	20% 23% 4% 51%	37% 13% - 50%
AUDIT Median	**Continuous**	34	38
CIWAR Median	**Continuous**	9	15
MENTAL HEALTH DIAGNOSIS	**Yes**	20%	58%
LIVER DISEASE DIAGNOSIS	**Yes**	15%	17%
PRIOR ASNS EPISODE	**Yes** **>6**	0 0	50% 21%

8.2.2 The journey into and through services

Figure 19 returns to the model of the stages of change presented in chapter five, integrating understanding gained form the quantitative analysis. Firstly, this combined analysis suggests patients can be divided into two main groups with different clusters of characteristics that influence the direction of change. Those who were younger, had more severe alcohol dependence, and were admitted directly because of alcohol (such as alcohol intoxication or withdrawal syndrome) were more likely to engage with help from the ASNS. Older and sicker patients (often retired or unemployed) often came to hospital because of an illness and often experienced only mild withdrawal symptoms. This group rarely engaged in help from the ASNS and had worse outcomes in terms of admissions and deaths.

Figure 19 Factors influencing the journey through services



The group of patients most likely to engage with the ASNS appear to have more severe consequences that are easy to directly connect with alcohol; the earlier analysis suggested that making this connection between alcohol and consequences is likely to influence treatment engagement. As this group also had better outcomes in terms of readmissions and survival, it is likely that they made positive changes with the support of help. Relapses requiring further crisis detoxification were more common in heavier drinkers in year one, but over four years this number decreased considerably suggesting that patients were moving in the direction of recovery. It is not possible to say that this equates with stable recovery, but a relationship seems likely as moderate-severely dependent drinkers do not tend to moderate their drinking.

Those who were unemployed could also engage in help from the ASNS, but were less likely to do so and had worse outcomes in terms of more ED attendances, more admissions and less survival than those who were employed. In the interviews, people who were unemployed often perceived that they had limited work opportunities, and faced challenges of lack of structure, isolation and financial stress. Efforts towards work were infrequently rewarded by natural consequences, potentially limiting progress in recovery; for example one participant undertook training for a new profession, but faced pressure to find work before he could complete this.

Patients known to have a mental health diagnosis came back for further detoxes over a longer period of time which would be expected given the barriers they described to their recovery in their interviews. Those who had co-existing mental health problems (usually anxiety or depression) often experienced barriers to accessing mental health services or therapy, either because they were only recently sober or seemingly because they did not meet the criteria to access services. The findings that they had better survival rates suggest that this group might also eventually make progress in recovery.

Those with personal health, employment and close family relationships made the most progress in recovery and had many rewarding experiences as they made changes. Those with financial resources also had more options and could pay for treatment when there was a gap in services. These factors can be related to what has been termed 'recovery capital' (Cloud and Granfield): `human capital' refers to personal resources such as family support, employment and health; `physical capital' refers to income and financial assets; and `social capital' refers to a person's social networks. Those who were older, retired or unemployed were less likely to engage in the ASNS intervention following detoxification; one possible explanation is that they do not consider themselves to have potential for recovery.

8.2.3 **Active assisted change**

Relevant to the process of active assisted change, Table 42 provides a combined description and summary of the two post-detoxification pathways as they existed during the three-year period from April 2012 to April 2015 when the retrospective analysis took place. The pathways can be considered to contain three main aspects: the brief or extended ASNS intervention; the alcohol specialist service key-working and group interventions (hospital or community based); and GP prescribing post-detoxification. Service use within the pathways post-detoxification is summarised using the ASNS, CHIA and NDTMS data. In the fourth column a link to the qualitative analysis is used to provide examples of how different types of interventions within the pathway can contribute to recovery.

Table 42 Summary of Pathways

	Service description	**EXT-INT** Uptake of services	**BRIEF-INT** Uptake of services	**Patient account of factors supporting recovery**
Alcohol Specialist Nurse Service	Biofeedback of blood results and health interventions Recovery support Referrals to job centre, health trainer, and other services	**Follow up appointments for up to a year in hospital** 36% engaged as outpatients, median length 30 days 14% engage as inpatient only, median length 7.5 days	**One follow up appointment in hospital** 31% engaged as outpatients, median length 15 days 15% engage as inpatient only, median length 7.5 days	Orient to recovery by encouraging abstinence, education, initiate medication, feedback, slogans, advice and referral Asking about underlying mental health issues, show understanding, refer on Provides opportunities to talk things through
Alcohol Specialist Services	1 to 1 keyworker meetings focused on recovery and relapse prevention Group meetings Counselling Referral to other services which vary locally	**Hospital and community based recovery keyworkers & ACT groups** Approximately 10% had an episode within 12 weeks*	**Community nurse keyworker, open groups and counselling** <2% had an episode within 12 weeks*	ACT Groups (EXT-INT): awareness training, life direction and mindfulness Counselling (BRIEF-INT): provides opportunities to talk things through; facilitates awareness of personal patterns and new perspectives
GP	ASNS liaises with GP for post-detoxification prescribing.	**Ongoing liaison with GP when required** 3% prescribed for dependence by 3 months 32% prescribed supplements by 3 months	**Referral on to GP** Data not available	Prescribing medication for alcohol dependence and mental health issues Provides opportunities to talk things through
*Based on NDTMS data for number of community episodes initiated in 12 weeks post detoxification.				

In light of the estimates that 57% of people with alcohol dependence are potentially open to change (Pryce et al. 2017), a significant proportion of the post-detoxification group had an intervention after detoxification with the ASNS. The fact that 50% were open to accepting help from the nurses after detoxification was likely to be influenced by the highly valued empathic and straight-talking approach of the nurses. There was a rationale for why people engaged in the weeks after detoxification, as the ASNS interventions were seen as helpful in orienting the patients towards recovery, pointing out the first steps they needed to take, and supporting them in a variety of ways to set out on this journey. Where the nurses emphasised health interventions in their description of their role, patients referred to the importance of this relationship, and recovery interventions. Most interventions lasted weeks rather than months, even when there was the option to continue for longer. There was a correspondence between this finding and the progression over time within the interviews to a wider network of support. The impact of the

ASNS contact in the first few weeks was often still referred to as an important step in recovery, while other sources of support became more relevant to their needs as they progressed. The most common additional sources of support that were cited as helpful were: family members; a counsellor or therapist; residential treatment or a day programme; and for those who could identify with groups such as AA, ACT or the wider recovery community, participation had a considerable impact.

The NDTMS data indicated that very few patients who were referred to community based specialist services actually engaged following on from this detoxification (<2%). The qualitative analysis gave common explanations for why people did not engage. In many cases there was a perception that the community services did not have anything to offer that was relevant to recovery after detoxification. There were also examples given where people felt intimidated going to these services because of the tendency for people to gather outside the building, sometimes drinking there. Another common factor that put people off from attending was the presence of intoxicated members in the group, or where some were working towards different goals than abstinence.

The hospital-based specialist alcohol service was seemingly more acceptable as more people (approximately 10%) attended when given this option. The hospital service no longer existed by the time of the interviews, so it was not included in the thematic analysis although one participant had past experience of this service and spoke of the help she received:

> *"I got an appointment to see like a type of keyworker and he helped me really from there, he helped me tremendously…when I first walked in I had my cap on, literally covering me up, I was scared. I was absolutely petrified and he just watched me grow basically, confidence back, driving again, I went to all the ACT meetings here, it was brilliant you know, everyone was there for the same reasons, and any problem I knew I could phone [keyworker] and say look I'm having a problem"* (P21)

ACT groups were also available in the extended pathway, but it was not possible to identify how many of the cohort engaged in ACT groups. A service review (Ward 2011) suggested these groups were well attended, but there are no figures in relation to the post detoxification group. Several interview participants accessed ACT groups in residential treatment or in the community; when this was the case the training these groups offered in awareness and the ability to pause before taking action were often cited as examples of important learning underpinning change.

The CHIA data suggests that the rate of prescribing for alcohol dependence in primary care following on from detoxification in the EXT-INT area was low (approximately 3%), and a greater proportion were prescribed supplements for vitamin deficiencies related to alcohol use (approximately 26–32%). NDTMS data also suggests post detoxification prescribing was not taking place in community teams. Several of the participants interviewed found medication for alcohol

dependence (Acamprosate) or for mental health issues helpful in their recovery, and some GPs were reported to be very supportive and would talk things through with their patients. This represents a discrepancy between the emphasis people placed on the support of medication such as Acamprosate, and the low percentage who were recorded in GP practices in the city area as receiving this type of medication after detoxification in primary care (3%). This suggests that such prescribing is viewed as important by those who receive it, but that the number utilising this support may be smaller than expected.

8.2.4 Comparing the outcomes for the two pathways

This section addresses the final research question. The ASNS and other hospital-based services offered a range of interventions relevant to the key changes that participants reported in early recovery. Considering this and the greater uptake of the hospital-based interventions overall, there was reason to expect improved outcomes. However, there was no significant difference found between the outcomes in the regression analysis when all available baseline factors were taken into account. Some limitations of the study design may have influenced these outcomes; these have already been discussed in section 7.1. Also, different outcomes might have better reflected recovery and quality of life.

It is plausible that the early part of the intervention, during the detoxification and in the first few weeks afterwards, had most impact. Participants gave a vivid account and placed importance on the role of the nurses when they experienced a crisis which brought them into contact with ASNS in the hospital. There is considerable evidence in the addictions literature that motivation is a key factor in changing any addictive behaviour and many people will change with or without assistance once they have made a clear decision to do so. As both groups received this part of the intervention, this would account for the lack of difference between the groups. It is therefore important to consider that the early impact of the ASNS intervention may have been the most potent. However, this could not be examined in this study, there was no available comparison group who did not receive the early part of the intervention.

8.3 Service and research implications

The high rates of death in this group of alcohol dependent patients highlights the importance of identifying those most at risk at an earlier stage. The highest rates of morbidity were associated with those admitted for longer periods for a physical illness or those who had blood tests indicating liver damage. One potential area for clinicians to explore further could be increasing referrals from outpatient departments; it was identified that 40% had been attending as

outpatients in the prior year, but very few referrals came from this route. It was evident that an area that was beyond the scope of this study - earlier intervention in primary care - would also be important to address. The role that the ASNS plays in supporting end of life for some of these patients is important to recognise and could merit further research.

The ASNS sees a significant number of people annually for unplanned detoxification, which was found to be more common than planned detoxification initiated by community alcohol services. Detox access presents issues for this patient group who often need medical help to break the drinking pattern and continue with their recovery. Because of the neurological damage associated with frequent detoxification (Loeber et al. 2009) as well as resource limitations and high relapse rates, detoxification is not usually easily available. Access to detoxification through community services commonly requires a period of engagement with the service in order to plan support following the process. It is conceptualised that such engagement demonstrates willingness to change. However, those who do not manage to engage in this process often reach a state of medical crisis or attempt to self-detox, resulting in crisis admissions to hospital. The harms and benefits of rapid access to detoxification, especially for those in the active recovery phase need to be weighed up, and further research could explore this area.

It has been identified that hospitals have the potential to engage more people with alcohol dependence in treatment (PHE 2014). Half of the cohort engaged in at least one follow up session with the ASNS after detoxification, and a third engaged after discharge from hospital. For those who were referred on, the numbers who engaged in community-based alcohol and drugs services (CADS) within twelve weeks were found to be very low (<2%) . This strongly suggests that the recommended pathway from hospital, which is to identify alcohol dependency and refer on to specialist services (PHE 2104), was not effective. The majority of patients only have contact with the nurses after detoxification, engaging for a few weeks or months. As people are often highly motivated and receptive to change after detoxification, and have an established a relationship with the nurses during this process, the ASNS intervention provide an important opportunity to engage people in recovery whether or not they engage with other services.

It has been argued in this thesis that recovery includes common processes of change that can be facilitated by a broad range of interactions with professionals and family members. The ASNS interventions appear to be particularly important in preparing people to set out on the recovery path. During and after detoxification the nurses helped patients who were open to change to orient (or re-orient) towards recovery, and take their first actions to initiate recovery; medication, advice, slogans, referrals, and being able to open up and talk issues through were all seen as important aspects of this intervention. The ASNS identified that the summary tables (Tables 9, 11

& 13, Chapter 4), which summarised the common changes people make in recovery for each of the central themes (not drinking, day-to-day living and facing problems), could be used clinically to further assist this process and inform care planning. In this way people would have access to resources about the change strategies (or new rules) that others "in the same boat" have found helpful, whether or not they engage with further interventions or peer groups.

The patient accounts of what was helpful in recovery focused on a range of sources of support including family members, health professionals, residential rehabilitation, a structured day programme, counsellors or therapists, and some peer groups. The quality of the relationships was central in allowing the person to open up without judgement, receive validation of their experience, and take on new rules for recovery (advice or slogans) from a trusted source; there was also an emphasis on the availability of support that could be accessed when needed. It was through implementing changes and opening up in these relationships that awareness developed. Another important aspect of interpersonal relationships was support to make decisions rather than giving inflexible advice; this approach meant the person began to trust themselves and own and review the decisions they made.

If it is necessary for a patient to transfer to a new community-based keyworker, there is the potential for disruption in their process which can easily lead to disengagement. When an individual needs ongoing key-working in the community and that service is on offer, it makes sense to facilitate a transition to a keyworker while a relationship is established. However, the community services did not commonly offer ongoing key-working post detoxification, but assessment and referral to groups or counselling; in these cases it could be more effective and economical of resources for the ASNS to directly refer to these resources.

The findings strongly indicate the value of recovery groups, but that groups need to be abstinence-based and at a location not dominated by individuals who are still actively drinking and using drugs. Also it is important that a range of available groups are offered as many patients do not identify with AA, but might not be aware of other options such as ACT groups and online groups such as Soberistas. Some people might not engage with any groups for a variety of valid reasons which should not be taken as indicating a person is not motivated; for those with little social support but who are not open to group work, an individual relationship with a professional is likely to be important for as long as it takes to support the person to build personal social networks to facilitate their recovery.

Developing awareness of consequences, thoughts and feelings, as well as the ability to stand back from internal experiences, was an important aspect of the process of change as described by study participants. Direct training in awareness was experienced as helpful by several participants,

through mindfulness or ACT groups. Awareness was also reported to have increased during individual therapies, as a result of attending groups and after reading material about others' experiences with addiction. Efforts to change behaviour may also bring increased awareness as a natural process. Further research could investigate how best to facilitate different aspects of awareness and whether increased awareness could speed up recovery. Potentially there could be more emphasis on deliberately influencing awareness across different types of interventions in different settings.

Those with a mental health diagnosis at admission experience more obstacles to recovery and often consider that they need to access psychological therapy; these pathways need to be addressed particularly in relation to anxiety disorders and depression, which were by far the most common diagnoses. It also needs to be recognised that some patients experience barriers to accessing services due to anxiety and post-traumatic symptoms which may prevent them from leaving the house. These patients should not be assumed to be unmotivated to change; instead these barriers need to be addressed. The need to facilitate mental health treatment access from the general hospital has now been recognised by the local commissioners for the city pathway. The charity MIND has recently been asked to develop services to assist the transition from hospital to mental health support and services. The results of this study are contributing to the development of a proposal for this new service. Further work could also develop guidelines for those who offer therapy to people with alcohol and mental health problems, to outline the type of therapeutic interventions that are the most helpful in early recovery.

The findings of this study suggested that a range of supportive relationships are important to recovery. Social networks can be actively enhanced as a goal of interventions, as already emphasised in the recovery literature (Best et al. 2016). Building these networks is strongly related to increasing positive reinforcement for recovery, and is the focus for a number of behavioural interventions such as the community reinforcement approach (Miller et al. 1999). However behavioural interventions are not routinely implemented, in spite of considerable evidence for the effectiveness of behavioural approaches (Miller and Wilbourne 2001). One potential intervention that could be explored is an online intervention called `Genie' being developed by CLAHRC Wessex (2018); this is a tool which can be used by patients on their own or in collaboration with a professional to map out and reflect on their social networks, and identify local and online resources relevant to their personal preferences and needs. Adding this process to the ASNS intervention could potentially be a useful way to facilitate an individualised recovery plan, which can include access to the recovery community, but also extend beyond this. This tool also offers an approach to measuring changes in social networks which could be an important outcome measure of interventions. However, wider social policy changes might be needed to

address the challenges people face when there is a lack of access to resources, or when financial difficulties create barriers.

8.4 Reflections on methods

The prospective longitudinal study was successful in recruiting patients who were setting out on their recovery journeys after detoxification. The interviews provided rich data, from which a thematic analysis identified common patterns of change in early recovery for this group. The literature review was helpful in identifying common ground between this group and those who have recovered in specialist treatment or using AA, suggesting that the findings of this analysis could have wider relevance. The longitudinal approach allowed detailed descriptions of change close to the time of a crisis event, and this approach worked well for the aims of this analysis. The approach to building the analysis from behavioural principles grounded in participant accounts also provided additional insights into the process of change. Early decisions to use questionnaires within the interviews were of limited use in this primarily "bottom up" analysis, as it became clear that patients' conceptualisations differed considerably from the concepts in the questionnaires, and provided a much deeper account than would have been achieved using the questionnaires alone.

Recovery from alcohol dependence is considered to involve a long-term process of change, often spanning a number of years. Using retrospective routinely collected data provided an opportunity to look at longer-term outcomes without undertaking an extensive longitudinal study. A strength of the quantitative analysis was that baseline factors often predicted outcomes; thus, routine hospital data can be used to identify those who are most at risk. Recovery is also conceptualised as involving change across a wide range of life domains, including social networks, education, skills, employment, health and finances (Cloud and Granfield 2008). No comprehensive measure of 'recovery' encompassing these domains may be expected to emerge from routine data. Visits to emergency departments, hospital admissions, and deaths are common in this group of patients, and have been taken as proxy measures of health improvements associated with recovery. Detoxifications were considered to mark the cycles of drinking and periods of abstinence that are often part of the recovery journey. Using these measures in this study highlighted the complexity of their relationship with recovery, but also their relevance; further research clarifying the relationship between these outcomes and recovery could be beneficial.

The initial protocol of this study proposed that the linked hospital and CHIA dataset would be used for the main analysis. There was no known precedent for linking these two datasets, and the process had to be negotiated between the relevant parties. Although there were issues with the

completeness of mortality data, the actual linkage process worked well in practice and could be useful to inform future researchers. One learning point in this process was that once the linkage had occurred it was time-consuming to trace the source of any inconsistencies in the data or make any changes, since a number of different agencies had been involved. Another factor was that changes in national regulations between the times of application and data extraction meant that it was not possible to obtain all of the data that had been approved within the application. Awareness of these potential issues may be of use for future researchers. Another potential source of data on the patient group was from the NDTMS. Accessing these data was challenging, and the process took three years. The matching process was only partially successful. Nevertheless, these data added another perspective, and demonstrated the low level of engagement with community services.

8.5 Conclusion

The patient group who experience detoxification in general hospitals have moderate to severe alcohol dependence and commonly have comorbid physical and mental health problems. In spite of this, more than half had no contact with specialist alcohol services in the five years prior to their hospital detoxification. It has been considered that identification and brief intervention in hospitals would lead to more people engaging in specialist alcohol treatment services (PHE 2014b), but in this study this was not generally the case. However, half of the patients did engage with interventions following detoxification provided by the nurses, and patients highly valued the nurses' interventions during and for several weeks or months after detoxification. This suggests that extending the role of alcohol specialist nurses after detoxification is worthy of further attention.

The introduction in Chapter 1 referenced the STAR (Supporting Together Alcohol Research) patient group's statement that an answer needed to be found to help their recovery from alcohol dependence with sustained results over time. This thesis has contributed to answering this question in a number of ways in relation to those who had a detoxification with the ASNS.

Recovery from alcohol dependence often follows a crisis event rather than a process of rational decision making, and interventions during a crisis in hospital can have an impact on people's willingness to change as well as their openness to help. The first steps of recovery can be assisted by the interventions of an ASNS during and after detoxification. The concept of 'recovery capital' (Cloud and Granfield 2008) refers to a person's available resources for recovery, and there was evidence from both the quantitative and qualitative perspectives that these were important factors that influenced help seeking and outcomes in the longer term.

A greater understanding of the process of active change was gained, providing valuable information that can help services to align more closely to meet the needs of this patient group. Firstly, the thematic literature review brought together the findings of twenty-one studies that have drawn on first-hand accounts of recovery, shedding light on the process of change. Several studies have highlighted the transformative nature of recovery, but there has been little consensus about how this transformation takes place after the turning point has been reached. In this study a map of this process of 'active change' has been grounded in participants' accounts. It is anticipated that this map of the recovery journey could act as a guide for those setting out in recovery. The map of recovery based on patient accounts is trans-theoretical and thus could be considered alongside different types of intervention.

The application of theory to the personal accounts of change was based on the theoretical perspective of contextual behavioural science. These processes have been applied to addictions (Hayes and Levin 2012), but have not been mapped onto personal accounts of recovery previously, and additional insights were gained during this analysis. The concept of experiential avoidance was relevant to participants' accounts of why they were drinking. Following a crisis point, new rules were adopted in order to initiate abstinence, which initially involved avoiding alcohol and triggers; this avoidance based strategy was gradually replaced by rules that led to engagement with valued aspects of life. Relationships that provided opportunities to open up, and a validating response to expressions of vulnerability, were central to gaining distance from internal experiences; without this growth in awareness the transition away from behaviour driven by experiential avoidance towards valued living might not have been possible.

The premise of this thesis is that understanding the process of change in recovery matters, and can be used to inform service delivery and research. This thesis has contributed to the growing knowledge base providing insight into the process of recovery from alcohol dependence. Further developments in this area might bring a consensus about the nature of recovery as a process rather than an outcome. A growing consensus around a new model of change in the addictions field, grounded in science and patient accounts, could guide personal recovery and recovery services in the future. Contextual behavioural science offers a framework of research and principles that are highly relevant to the advancement of this purpose. Ultimately this could significantly improve the lives of people affected by alcohol dependence.

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Appendix A Overview of "post detox" cohort studies and risk factors

	Name, Date, Country, Design	**Sample Size and Follow up (Fu)** **Samples predominantly white, male with more single and unemployed unless otherwise stated**	**Inclusion (INC) and Exclusion (EXC)** **All INC Primary Alcohol Dependence >18** **All EXC Primary Drug Dependence**	**Interventions during and following detox** **All include Assessment and inpatient detoxification** **TAU=treatment as usual INT=intervention**
1	Schellekens et al. (2015)Netherlands Naturalistic prospective Fu study	N=189 Fup 81%	INC: 1m abstinent within 3m post detox EXC	Inpatient detoxification and 5-7 weeks CBT/Motivational Inpatient treatment
2	Walter et al (2006) Germany Uncontrolled Treatment outcome study	130 consecutive admissions N=130 (27% F) Fu 95% Lost to follow up assumed to have relapsed	INC: completed detox, some liver cirrhosis EXC: other drug use, MH needing meds; Antisocial PD; Severe neuro or health issues	Inpatient Unit 6 weeks Medical; CBT; Education
3	Driessen et al. (2001) Germany Prospective Cohort study	133 consecutive admissions N=100 Fu 68% at 6m (3 calls and Questionnaire sent)	INC: completed detox and enrolled on MI 3 week programme EXC: acute illness; drugs	Inpatient Detox; post detox 3 week Motivational & Relapse Prevention Programme
4	Muller et al. (2008) Germany Prospective Cohort Study	Number screened not stated. N=176 Fu 83%	INC: no additional EXC:MH comorbidity, drug use, severe neuro	6 weeks inpatient detoxification with Motivational sessions
5	Freyer-Adam et al. (2009) Germany Prospective Cohort/Validation of Measure	679 screened N= 549 Fu 76.1%	EXC: language, cognitive, physical barriers to research.	2 Alcohol units 2 weeks; Medical detox plus Groups; Activity; Peer groups; Individual Therapy option
6	Picci et al. (2014) Italy. Mixed cross sectional and Longituninal observational design	199 consecutive excl. comorbid drug users; incl.MH Fu 85% (6m) 74% (12m)	INC: No additional EXC: drug use	7 day private alcohol rehab facility Medical Detox and Psychosocial Interventions
7	Ponzer et al. (2002) Sweden Prospective cohort study	52 consecutive admission N=52 Routine data	Males only	Inpatient Medical detox; Info re AA; Videos re alcohol harm; Discharge plan,; Refer to community
8	Running Bear et al. (2014) Alaska Retrospective cohort study	N=383 Admitted to alcohol detox 2006-2007 Routine data **Adult Alaskan Natives**	INC: EXC	Detox unit tribally owned. Aftercare available.
9	Engel et al. (2015) Germany Prospective cohort study	N= 106 Fu 71%	EXC: comorbid drug use, mental health diagnosis, pregnancy, epilepsy.	Drug trial starting within 21 days of detoxification , type not specified

	Name, Date, Country, Design	**Sample Size and Follow up (Fu)** **Samples predominantly white, male with more single and unemployed unless otherwise stated**	**Inclusion (INC) and Exclusion (EXC)** **All INC Primary Alcohol Dependence >18** **All EXC Primary Drug Dependence**	**Interventions during and following detox** **All include Assessment and inpatient detoxification** **TAU=treatment as usual INT=intervention**
10	Petit et al. (2012) Belgium Prsoective cohort study	N= 256 Fu not clearly stated	EXC: comorbid drug use or serious mental health	Two inpatient detoxification units
11	Constant et al. (2015) France Prospective cohort study	N= 103 Fu 85%	EXC: severe cognitive impairment or refusal	detoxification ward in a University Hospital

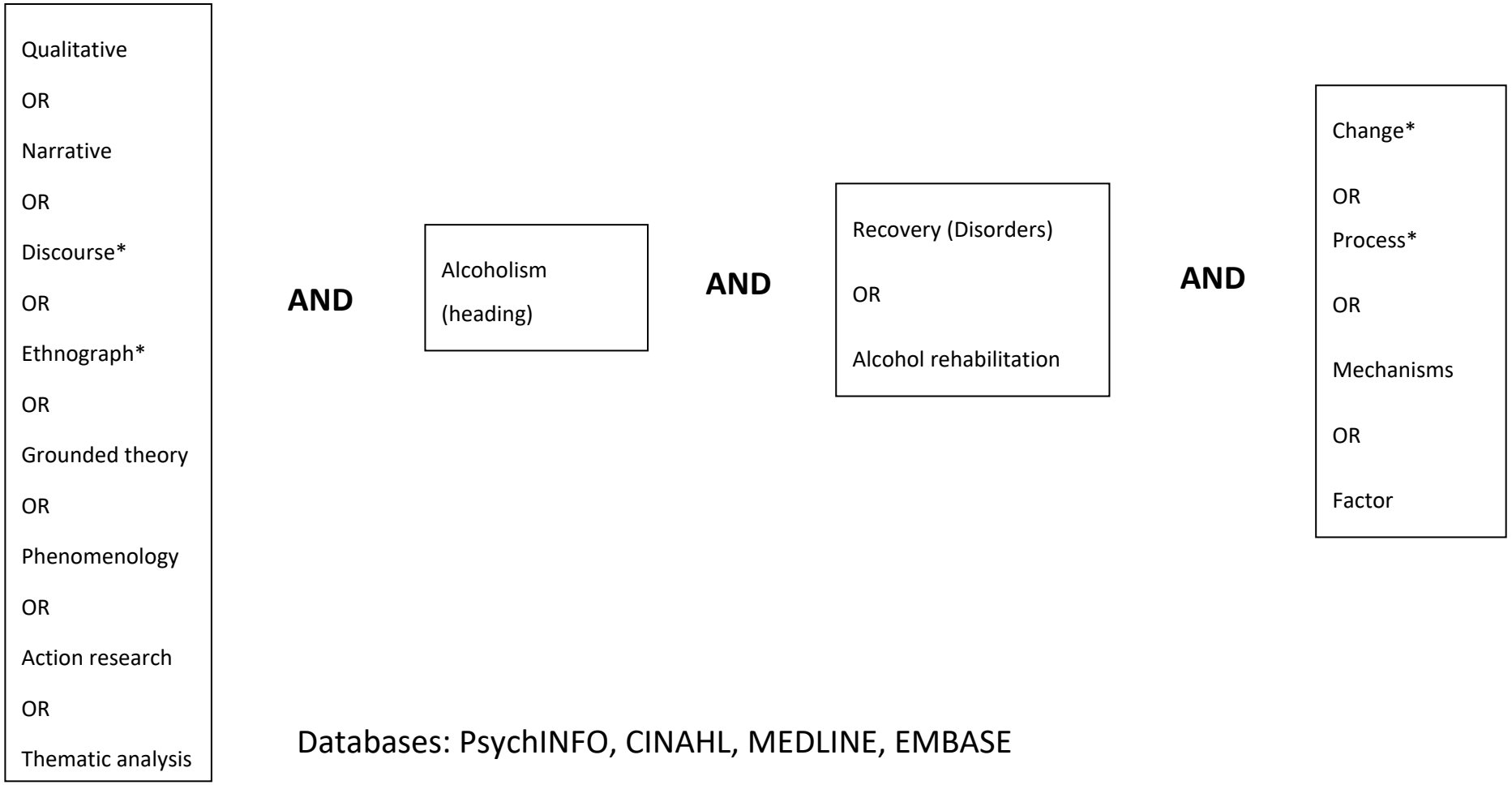
Risk factors for relapse and readmissions:

Risk and protective factors analysed	**Study**	**Significant Outcomes**
DEMOGRAPHICS		
Age	2, 8, 4, 1,9, 11	None
Gender	2, 6, 8, 4, 9, 11	None
Marital status: single, married, separated..	2, 6, 4, 1, 9; 8	2 p=0.0001; 4 p=0.007; 1 p=0.025 **being single a risk factor for relapse; admissions**
Number of children	8, 11	None
Living situation- alone, partner, other	2,4, 6, 8, 7, 11 11	2 p=0.0001; 4 p=0.004; 6 p=0.02 **living alone a risk factor for relapse; readmission** 11 p=0.001 **living with friends or parents was a risk factor for readmission**
Unstable housing	8	8 p=0.001 **unstable housing a risk factor for readmission for detox**
Employment	2, 6, 8, 4, 1, 9, 11	8 p=0.01 **unemployment a risk factor for readmission for detox**
BACKGROUND		
Family history of alcoholism	2, 4	None
Family history of dependence	1, 7	None
Violence at home growing up	7	7 less P=0.05 **history of physical violence in family lowered risk of readmission**
Education	6,8, 4,1, 9	None

Risk and protective factors analysed	Study	Significant Outcomes
LEGAL		
Legal problems	8, 1	7 p= 0.001 **more legal problems a risk factor for relapse**
DRUG & ALCOHOL USE		
Co-morbid drug disorder	8,1	None
Smoking	1	None
gambling	1	None
Addiction Severity Index	1	7 p=0.048 **overall addiction severity a predictor of relapse**
Age of alcoholism onset	4, 1, 9	None
Age of first drink	7	None
Severity of alcohol use disorder	6 (AUDIT) , 11	17 p= 0.019 **meeting >6 criteria for dependence in DSM increased risk of readmission**
Severity of DTs	7, 8, 2	2 p<0.0001; 8 p=0.01 **Epileptic seizures a risk factor for relapse; readmission**
Epileptic seizures history	7,8	None
Duration of dependence on alcohol	2, 4, 1, 11	None
Pre-treatment drinking	2, 7, 4, 1, 11	None
Platelet MAO activity	7	None
Number Physical Health conditions	8,1	None
Previous detoxifications	6,7,1,9	6 p=0.006; 7 p=0.05 **No. previous detoxes a risk factor for relapse; readmission**
Health care utilisation	8,7, 11	11 p= 0.037 **Number of previous visits to ED increased risk of readmission**
MENTAL HEALTH ISSUES		
Co-morbid depression	3,6,1	3 p<0.02 **Depression a risk factor for relapse**

Risk and protective factors analysed	**Study**	**Significant Outcomes**
Comorbid anxiety disorder (with subtypes for 7)	1,3,6,9	3 p<0.02; 1p<.001; 9 p<0.05 **Anxiety a risk factor for relapse**
Psychopathology	7,11	11 p p=0.001 **Deteriorating in mental health in first 6 months factor for relapse**
Symptom checklist (SCL-90-R)	9	9 p =<0.05 **High score risk factor for relapse at 5 months**
SSRI use	1	None
ADHD	1	None
Number of MH conditions	8	none
Risk and protective factors analysed	**Study**	**Significant Outcomes**
PERSONALITY SCALES		
NEO 5-Factor Inventory personality Q'airre	4	None
Temperament and Character Inventory:	4,1	None
Eysenck Personality Questionnaire EPQ:	4,1	None
Eysenck Impulsiveness-Venturesomeness	4,1	None
Personality Scale (KSP)	7	None
Sensation Seeking Scale (SSS)	4,7	13 p=0.03 **Sensation seeking associated with readmission**
Stress coping questionnaire SVF120*	2	None
Karolinska Scale of Personality (KSP)	7	None
OTHER MEASURES		
Treatment Readiness(TReaT[TV])	5	5 P=0.001 **Treatment readiness associated with help seeking**
Motivation to change (RCQ[TV])	5	5 P=0.018 **Contemplation stage risk factor for relapse**
Overall Quality of Life (OQOL)	6	None
Global Assessment Functioning (GAF)	8	8 p=0.002 **GAF score predicts probability of relapse**

Appendix B Qualitative literature review search strategy



Appendix C Checklist for selection of participants

This checklist relates to a research study following up patients at 1 week, 3, 6, and 12 months after detoxification with the ASNS. The aim of the study is to better understand the process of change for these patients and to find out what they experience as supporting their recovery, and what they identify as obstacles to recovery. The experiences of the different recovery pathways for [name of city area redacted] and [name of town area redacted] patients will be compared.

All criteria need to be met for patients to be recruited to the study

Aged over 18	Please tick
Completing detoxification with ASNS or completed within 6 months	
Referred from within [hospital name redacted] or has previously been referred to ASNS from within [hospital name redacted]prior to detoxification	
Resident of [area names redacted]	
Shows some interest in taking part in the study	
Expresses intention to change drinking or is ambivalent about change (exclude if clearly intending to return to drinking)	
Judged clinically able to give consent Refer to Mental Capacity ACT Code of Practice (Department of Constitutional Affairs 2007) Or Might be able to give consent with more recovery time up to 1 month	Please indicate 1 or 2

If the patient meets all these criteria please:

Give each patient a Patient Information Sheet and read through the sheet with them. Please tick box ☐

Ask for contact details for researcher to make contact (more than one method if possible)

Explain the researcher will be in contact within a few days to answer any questions about the study and to arrange a meeting (usually to coincide with the patient's ASNS follow up appointment).

Home phone:	Mobile phone:	Email:	Text:
Address:			

Name of Patient……..

Signed…….

Initials of ASNS staff member…….

Appendix D Participant information sheet

UNIVERSITY OF Southampton

Faculty of Health Sciences, Burgess Road, SO17 1BJ

Participant Information Sheet (PIS)

Study title: Journeys of recovery following a hospital based alcohol detox programme.

Invitation and brief summary: We would like to invite patients of the Alcohol Specialist Nurse Service (ASNS) to take part in a research study. We want to ask about the positive changes you make or try to make in your life and to find out what in your experience supports these changes and what gets in the way. This study is being carried out as part of a PhD studentship funded by Alcohol Research UK and the National Institute for Health Research.

What's involved? In the UK alcohol detoxification is increasingly being provided by hospital based alcohol teams. After detoxification patients are usually referred to community based alcohol teams, but it is not known if this is an effective pathway to avoid relapse and engage patients in recovery. At the [hospital name redacted] patients needing alcohol detoxification are treated by the ASNS. After detoxification [area redacted] patients are seen as outpatients by the ASNS for up to a year, while patients who live in other parts of Hampshire are referred on to local community alcohol services. This research study will compare these two different pathways, and could help services to provide more effective support in the future.

What would taking part involve? You are invited to speak with a researcher up to four times after detox over a period of a year. The first research appointment would take place one week after detox or as soon after detox as is possible. Where possible this will be just after or before you meet with the ASNS or attend another outpatient appointment. The other meetings can be either at the hospital or at a service closer to your home where this is possible. With your consent interviews will normally be recorded.

During the research appointments you will be asked about the changes you have made, attempted to make, or are considering making in your life. We are interested in what you have found supports you and what you have found that makes it difficult to act on the changes you want to make. This could include a whole variety of things, people, and services. It is your experience, whatever that is, that we wish to hear about. As well as being asked about changes you see as important, during each research meeting you will also be asked to complete three questionnaires, which will take approximately 20 minutes. Each research appointment would last about an hour in total.

We would schedule appointments around your commitments such as work or child care. If you find it difficult to concentrate at the time we will offer you a break or the opportunity to complete the interview another time. If you wish to bring someone with you to the appointment that is fine. This is your choice and if there are issues you don't want to discuss in front of that person you do not have to. Travel costs will be reimbursed for appointments that do not coincide with planned health appointments. If travel poses a problem we can consider an alternative venue or telephone contact.

Do I have to take part? No. Participation is entirely voluntary, so that it is up to you to decide whether or not you wish to participate. If you do not want to take part then your future care will not be affected in any way. If you do want to take part then you will be asked to sign a consent form, but you may still withdraw at a later stage without giving a reason, again without this affecting your future care.

What are the possible benefits of taking part? It is hoped that the study will influence future services and research, and therefore be of benefit to future service users. Some participants may

find it beneficial to have this opportunity to voice their experiences and make a contribution to understanding what people need to support them after detoxification.

What are the possible disadvantages and risks of taking part? Speaking about the changes in your life that you wish to make or are making is likely to be more helpful (or neutral) to you than harmful. However speaking about what really matters to you can be emotional and it is likely that you will experience a range of feelings. You can tell the researcher if you are finding the interview or questions difficult. The researcher will be supportive to you and offer you the option of stopping or moving on to another question. The researcher will also ask you if you need some additional support to address an issue that may have arisen. The researcher would identify a source of help and support you to make contact such as a nurse, counsellor, GP or supportive family member.

How will my information be kept confidential? The information you share will be kept confidential. The information you share will not be known by the ASNS team and will have no impact on any aspect of your care. The researcher will keep details that could identify you separate from the content of the meetings in a locked cupboard at the [hospital name redacted] site only accessible to the student and her supervisor at the site. Audio recordings will be stored on the University of Southampton computer, and will be deleted within two years. Personal information would be destroyed within 2 years. All the information you share will be kept securely. The only exception to maintaining your confidentiality is if you disclose information suggesting you or another person is at risk of harm. If the researcher has concerns about potential harm to a child or adult, this may need to be disclosed to the relevant bodies. If this occurs we would talk to you first and discuss any disclosure with you where possible.

Can I change my mind? You can say you don't want to speak about a particular question or you can choose not to be part of the study any more at any point during the study. If you decide to withdraw during the one year period of the research interviews none of the information you have shared in any of the interviews will be used for the study if that is what you wish. You can also ask for the recorder to be turned off during the study in which case the interview can continue and written notes will be made by the researcher with your permission.

What will happen to the results of this study? The results of this study will be written up for assessment of the researcher's work and submitted for publication. You will also be sent a summary of the results. It is also planned that the results will be shared with local service providers to help make decisions about the services they fund in the future.

What to expect during the consent process: If you are interested in taking part in the study a nurse will record your preferred contact details. The researcher will contact you within a week to discuss any questions you have about the study. If you decide to take part a meeting will be arranged with you, normally on the same day as your follow up appointment with the ASNS. The researcher will make sure you understand what the study is about and what is required of you. You will then be asked to sign a consent form to take part in the study. After you sign the consent you can still change your mind.

The Researcher: Lucy Dorey, BSc. MEd. Is a PhD student at the University of Southampton and can be contacted by phone: 07942680376 or by email lad1c14@soton.ac.uk . You can also contact Dr Greta Westwood – Deputy Director of Research and Innovation at [hospital name redacted] by email: [email redacted] **If you wish to complain or discuss a concern with someone independent of the research team** please contact Isla Morris, Research Integrity and Governance Manager, University of Southampton telephone: 023 8059 5058 or email: rgoinfo@soton.ac.uk.

Appendix E Consent form

CONSENT FORM

UNIVERSITY OF Southampton

Faculty of Health Sciences,
Burgess Road, SO171BJ

Study title: Journeys of recovery following a hospital based alcohol detox programme
Researcher: Lucy Dorey BSc. MEd., PhD student.

Participant Number for this study: ☐

Please initial boxes:

I confirm that I have read the information sheet dated (version) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. ☐

I understand that if I disclose information suggesting I or another person (child or adult)is potentially at risk of harm this may need to be disclosed to the relevant bodies. ☐

I agree to the researcher having access to the Alcohol Specialist Nurse Service (ASNS) Assessment Form in order to record information relevant to this study. ☐

(area of residence, referral source, age band, gender, ethnicity, employment status,

age of first alcohol use, age of regular alcohol use, age problematic alcohol use,

units per week/day, alcohol screening score, alcohol dependence score, alcohol withdrawal score.)

I agree to have my interview appointments audio-recorded (face to face and telephone). I understand I can ask recording to stop at any time during an interview and that recordings will be stored securely. If I wish the interview to continue then notes could be taken with my permission. ☐

I understand and agree that anonymised and unidentifiable quotes from the recorded interviews may be published. ☐

I agree to take part in the above study. ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of Person taking consent	Date	Signature

Appendix F Stages of change readiness and treatment eagerness scale

(Miller and Tonigan 1996)

	No Strongly Disagree	No Disagree	? Undecided or Unsure	Yes Agree	YES! Strongly Agree
1. I really want to make changes in my drinking.	1	2	3	4	5
2. Sometimes I wonder if I am an alcoholic.					
3. If I don't change my drinking soon, my problems are going to get worse.					
4. I have already started making some changes in my drinking.					
5. I was drinking too much at one time, but I've managed to change my drinking.					
6. Sometimes I wonder if my drinking is hurting other people.					
7. I am a problem drinker.					
8. I'm not just thinking about changing my drinking, I'm already doing something about it.					
9. I have already changed my drinking, and I am looking for ways to keep from slipping back to my old pattern.					
10. I have serious problems with drinking.					
11. Sometimes I wonder if I am in control of my drinking.					
12. My drinking is causing a lot of harm.					
13. I am actively doing things now to cut down or stop drinking.					
14. I want help to keep from going back to the drinking problems that I had before.					

15. I know that I have a drinking problem.					
16. There are times when I wonder if I drink too much.					
17. I am an alcoholic.					
18. I am working hard to change my drinking.					
19. I have made some changes in my drinking, and I want some help to keep from going back to the way I used to drink.					

Appendix G Topic guide

Interview 1 (60 Minutes)

1. **Introduction (20 minutes)**

   Aim: to introduce the research and set the context for the interview

   a. Introduce self and role at University of Southampton
   b. Introduce the study and what it is about
   c. Purpose and length of the interview
   d. Voluntary participation, right to stop to have a break and to withdraw
   e. Explain confidentiality and limits
   f. Discuss how participant could seek support if interviews have an emotional impact.
   g. Reasons to take notes in the current session and record the future interviews.
   h. Any questions or concerns
   i. Written consent

2. **Background information (20 minutes)**

   Aim: to gain understanding of background information which will provide contextual information to assist in understanding experiences during the current episode

   a. Previous admissions and hospital contact
   b. Previous use of alcohol specialist services or recovery related services
   c. Current living situation and marital status
   d. What recovery means to the participant, whether they see themselves as in recovery and if so for how long?

3. **Questionnaires (20 minutes)**

   Aim: to introduce and complete study questionnaires

   a. Explain each questionnaire purpose and scale
   b. Offer participant opportunity to complete themselves or assisted by researcher reading each question and reminding participant of the scale.

4. **Thank-you and arrange next meeting**

Interviews 2, 3 & 4 (60 minutes each)

1. **Introduction (5 minutes)**

   Aim: to remind participant of key research information and set the context for the interview

   a. Briefly review the purpose of the study
   b. Purpose and length of the interview
   c. Voluntary participation, right to stop to have a break and to withdraw
   d. Remind of confidentiality and limits
   e. Remind how participant could seek support if interviews have an emotional impact.
   f. Reasons to record this and future interviews.
   g. Any questions or concerns
   h. Verbal consent

2. **Semi-structured Interview (40 minutes)**

   Aim: to gain the participants perspective on the process of change in early recovery and factors and factors supporting and hindering their recovery

   a. Positive changes noticed by participant or participant's family and friends since our last research meeting or since detoxification.
   b. Changes deliberately made or attempted by the participant. Probe for specific examples of behaving or thinking differently, asking for details such as who was present, where they were, what feelings they were experiencing.
   c. Changes the participant has been considering but haven't acted on yet.
   d. What or who the participant sees as having helped implement the changes? Probe for examples of specific situations.
   e. What or who the participant sees as having been obstacles to implement the changes? Probe for examples of specific situations.
   f. What the word "recovery" means to the participant.

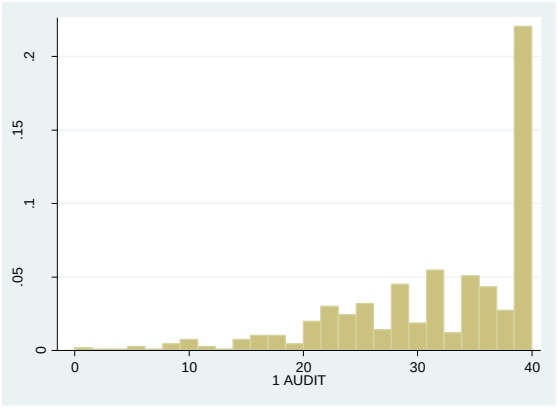
3. **Questionnaires (15 minutes)**

   Aim: to complete study questionnaires

   a. Explain each questionnaire purpose and scale
   b. Offer participant opportunity to complete themselves or assisted by researcher reading each question and reminding participant of the scale.

4. **Thank-you and arrange next meeting or close researcher-participant relationship in meeting 4**

Appendix H Distribution of continuous variables



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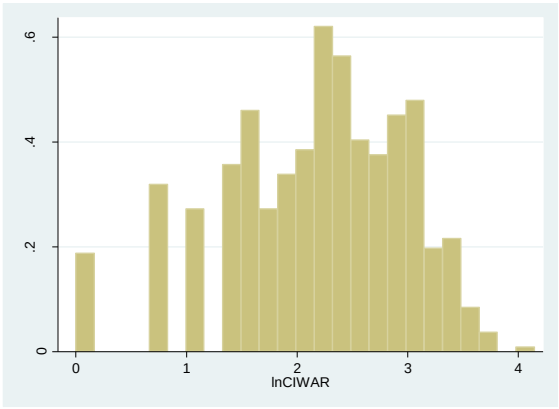
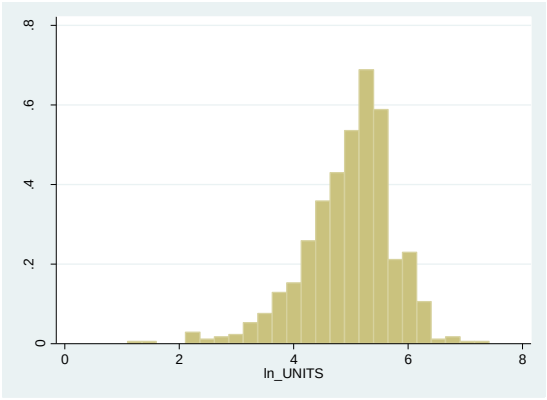


CIWAR



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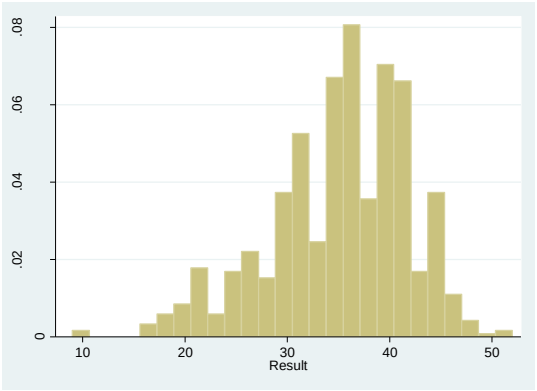
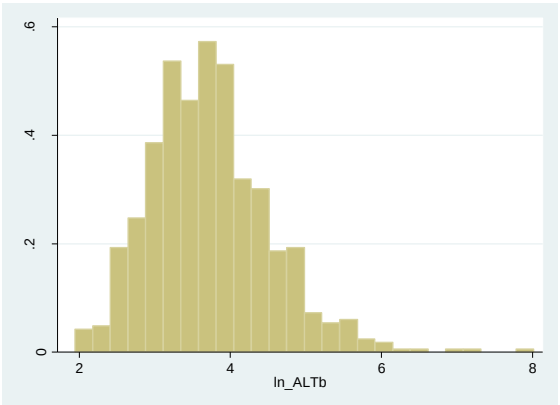


ALBUMIN



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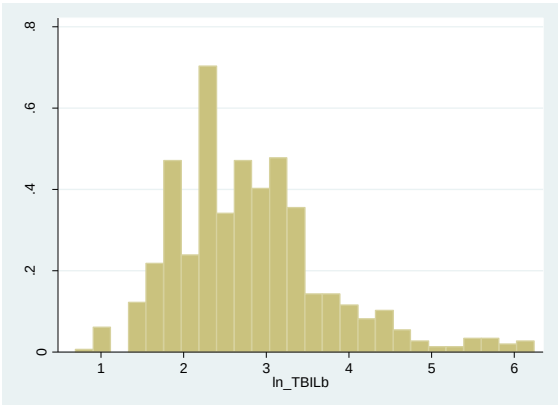


ln TBIL

Appendix I Summary for study participants

Dear

RE: Journeys of recovery following a hospital based alcohol detoxification programme.

Thank-you very much for taking part in the study. Whether you attended one or more interviews you made a valuable contribution to creating a collective account of the changes people have made after alcohol detoxification, and the challenges faced.

I want to give you the opportunity to see the initial write up of the results and to give me some feedback if you would like to. Previously I said I would invite people to a group meeting to discuss the results. On reflection, I have decided to send you a summary and invite you to send in feedback by email or mail in the enclosed envelope. If you would like to talk to me about the results, I am happy to arrange a phone call or meet up with you individually.

The study is based on interviews with twenty-four people and aims to reflect the experiences that are common, rather than unique to you. There will likely be some aspects you will relate to and some aspects that have not been part of your experience. I am interested to what extent you can see your own experience in the summary, and if there is anything that could be worded differently in your opinion (such as words I've used that you dislike or don't make sense to you).

The experiences of patients are important to consider in planning services and it is my intention to use the findings of this study to that end.

Best Wishes,

Lucy

Tel. 07942 680 376

INTRODUCTION

While not everyone relapses on the path of recovery from alcohol dependence, relapse is common just as it is in most types of behavioural change. Unfortunately, in the case of alcohol, relapsing often means waiting for another detox or gradually reducing (following medical advice), which as one person put it is "notoriously difficult". A typical path to recovery can include a number of periods of several months of abstinence before stable recovery is achieved. It appears that people could be learning about how to live in recovery with each period free from drinking, gradually building the resources to maintain the necessary changes to be stable in recovery. By understanding the changes people make to achieve and sustain long-term recovery, it should be possible to support people better and hopefully reduce the number of relapses they experience before recovery becomes stable.

Twenty-four people set out in this study on a journey of "recovery" following a detox from alcohol. Recovery meant different things for different people, but most commonly it was considered to involve: abstinence from alcohol; being free to make your own choices rather than alcohol being in control; and being able to get on with day to day life. For half of these people this was the first detox from alcohol; others had previous experience of recovery and used what they had learnt including experiences of treatment or peer groups. By six months, twelve people were continuing with study interviews and half of those interviewed at six months had experienced or were experiencing relapse. By twelve months three people completed the year follow up, all of whom remained abstinent for the full year. Individual interviews were often much longer than originally planned, which meant I was able to collect a large number of recordings of in-depth personal experiences at different points of time in the recovery journey. This enabled me to achieve the study aims.

BACKGROUND

People often described having been drinking heavily for some years prior to detox and usually related this to difficult and painful issues they had experienced in their life such as: depression, anxiety, eating disorder, post-traumatic stress, post-natal depression, physical pain, sleep disturbances, bereavement, a family member's serious illness, domestic violence, not being able to see children following a relationship breakup, bullying, betrayal by someone trusted, work stress and financial stress). Continuing to drink heavily on a daily basis eventually became so difficult that a few people described the experience as "like hell". While several were outpatients from the start, most people were admitted to hospital in a crisis because of withdrawal symptoms, alcoholic poisoning or some other acute medical crisis related to alcohol. The harsh reality of this experience often contributed to a wish to stop drinking and find help. Meeting the Alcohol Specialist Nurses was significant for many at this point; they were seen as empathic, understanding, straight talking, and giving sound advice, all of which helped the person in making changes.

After detoxification some people felt there was little on offer to support them in their efforts to change: "there's just this massive gap" while others really appreciated the range of support on offer to them. Depending on where people lived they had access to different services. Seven out of the twelve participants interviewed at six month had found help that suited them from a variety of sources including: structured treatment programmes, peer groups, health professionals, therapists or counsellors, and family members. One person was able to change without help, whereas others experienced significant barriers to getting help.

Most people interviewed worked towards their recovery making a variety of changes. It is a description of these changes, and what was supportive in this respect, which is the main focus of the study, and these are summarised below.

The obstacles to change were also highlighted in people's accounts; sometimes difficult challenges needed to be overcome and could block or delay progress.

THE CHANGES PEOPLE COMMONLY MAKE IN EARLY RECOVERY

The changes commonly described were summarised into three main categories according to the main purpose of the change or what was being achieved by making the change. The first category was "Not drinking". The realisation that abstaining was essential was present for nearly everyone, often based on personal experience of attempting to control drinking. The second category "Day to day living" represents the changes people made in their way of living from basic self-care to relationships and work. The final category "Facing problems" covers the changes people needed to make to address mental health problems and stressful situations, and find an approach to living that led to experiences of more calm or peace.

The three tables below summarise the changes people noticed in each category and how the changes developed over time from initial to the final interviews. These changes did not take place in isolation but in most cases with support from either a GP, nurse, family member, therapist, counsellor, peer group or AA sponsor. The qualities of those giving support was highly important and descriptions included: empathy, being non-judgmental, straight-talking, and being available. Engagement in peer groups usually depended on finding common ground with peers and those further in recovery, but empathy and not being judged were also important. These qualities allowed people to open up and share their experiences with others, which helped overcome the shame often associated with addiction; this opened the way to taking on board advice.

Theme 1: Not Drinking

Setting Out (first interviews)	Making Progress (interviews at 3-6 months)	Ongoing Recovery (interviews at 12 months)
1.Adjusting to abstinence *"I cannot have alcohol pass my lips"*		
Adopting abstinence: -adopts abstinence goal one day at a time -chooses who to tell about drinking problem and abstinence. -relief and benefits of not drinking felt in first few weeks -taking medication to reduce craving	**Uncertainty of ongoing abstinence:** - one day at a time approach continues -communicates progress to others without promising abstinence -concerned about reducing medication too early -avoiding or overcoming relapse	**Maintaining commitment to abstinence:** -- uses memories of past drinking as reminder of need for ongoing abstinence - can adopt "alcoholic" or "non-drinker" label - communicates long-term commitment to abstinence - feels ready to stop craving medication
2. Negotiating contact with alcohol *"It's not the alcohol that I wanted, it's the social environment"*		
Contact with alcohol avoided: - no alcohol at home - avoids social drinking situations - avoids shops - can temporarily give away access to money - plans for family drinking situations	**Attends social drinking events:** - learns to cope with some social situations involving alcohol -often avoids heavy drinking situations or leaves early - or social drinking situations not important part of social life	**Maintained personal approach to situations involving alcohol** -no additional changes
3. Aware of thoughts and triggers *"it's only a natural thought"*		
Aware of thoughts about drinking and external triggers: -notices thoughts of wanting a drink - aware of choice and reasons not to drink and able to make this choice -sometimes seeks support or attends meetings if wants to drink	**Aware of thoughts and internal triggers:** -notices thoughts about drinking and lets them pass quickly -vigilant of overconfidence "thinking I'm ok now" - aware of physical and mental states that trigger thoughts and acts to reduce these	**Reduced attention to alcohol:** -less desire to drink -less thoughts about drinking
5. Participating in peer groups "meeting others in the same boat"		
Attends a variety of peer groups -AA and other peer support groups embraced when there is commonality of experiences with others. -opening up in groups.	**Balancing recovery groups and living:** -using group support -often chooses to reduce attendance at meetings to give way for everyday life .-makes own choices in face of contrary advise and uncertainty about outcome.	**Confident in personal decisions about ongoing recovery support** -continues or stops attendance based on own decision.

Theme 2: Day to day living

Setting Out (first interviews)	Making Progress (interviews at 3-6 months)	Ongoing Recovery (interviews at 12 months)
4. Daily routines and physical self-care "*all the things that go out the window when you're drinking"*		
Taking pleasure in previously neglected activities -washing and shaving -exercise -eating well -housework -driving	**Attention to health needs** - routine established - exercise progressing - eating well - feeling well or adapting to limitations in health	**Feeling well and enjoying life** -feeling well -enjoying life -strength to deal with problems
5. Healing close relationships *"the memories and all the things I did were all still hanging around"*		
Appreciating Family time -enjoying time with family -able to do things for family gives satisfaction	**Rebuilding relationships** -being available to support family members -honesty -facing people affected by behaviour when drinking	**Positive relationships with family and friends** -improving family and friend relationships
3.Pursuing a direction in work or retirement "this was something I've had in the back of my mind for doing"		
Personally meaningful direction -enjoying getting back to work -making plans for future work or retirement projects -routine includes learning and voluntary work (if not working) -helping others	**Progress in work** -enjoying work & study -increasing confidence at work -overcoming difficulties at work or in new learning situations	**Successful in work** -work going well, promotion or growing business
6. Deciding on priorities *"I'm trying to sort out …what I need to do, not what I want"*		
Making decisions based on own priorities -making own decisions in face of various sources of advice and self-doubt. -lower ambitions	**Balancing life based on my own decisions** -making own decisions with uncertain outcome. -work-life balance -reducing attendance of recovery groups	**Living in balance** -personal routine feels balanced and based on experience of what works

Theme 3: Facing problems

Setting Out (first interviews)	Making Progress (interviews at 3-6 months)	Ongoing Recovery (interviews at 12 months)
Finding help for mental health problems "*it's gone from stopping [alcohol]… straight to having the mental issues"*		
Facing mental health problems -aware of mental health problems or painful life issues masked by drinking now resurfacing -finds someone to disclose to -non-judgment and understanding important	**Getting the right help** -usually tries various sources of help -eventually gets access to therapist or supportive family member -opens up regularly, feeling safe to do so -recognising unhelpful thought patterns -discovers new perspectives and alternative strategies.	**Improved mental health** -less unwanted thoughts and feelings -awareness of habitual patterns -self acceptance -reduced need of support -increased confidence in coping with mental difficulties
Positive action in facing stress "look before you leap"		
Facing stress and difficult life events -aware of stresses not addressed when drinking	**Dealing with stressors and difficult life events** -taking action to improve situation -look before you leap -aware of thought patterns -feeling calmer	**Reduced experience of stress**
Practices for mental wellbeing "*stopping and taking the time to do things that I will benefit from"*		
Personal Practices -adopts personal practices for self-awareness or spiritual development: journal writing, mindfulness, reflective reading, gratitude.	**Keeping up Practices** -keeping up helpful practices -getting to know personal habits -embarking on 12 steps very important for some	**Positive mental health** - practices become part of individual lifestyle -12 steps become way of life for some individuals -feeling calm and peace

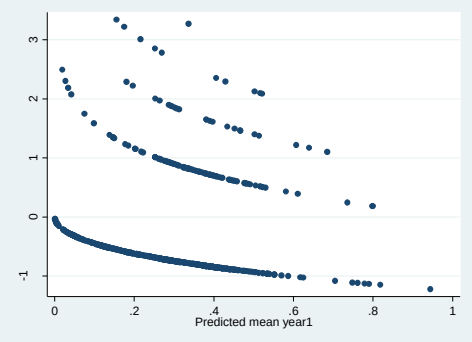
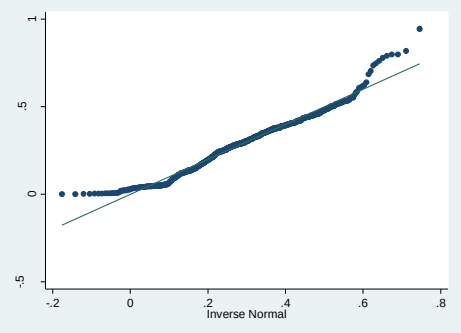
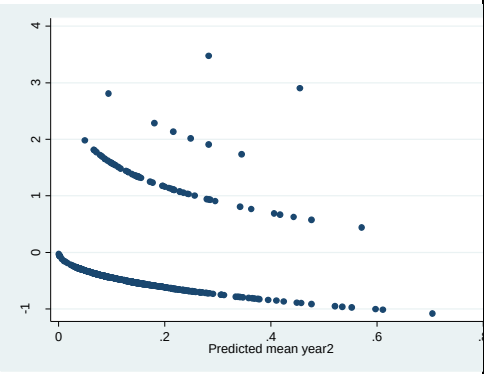
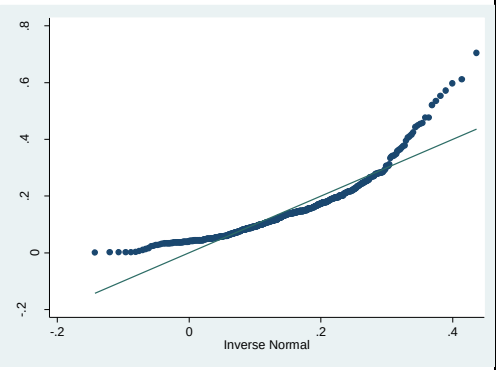
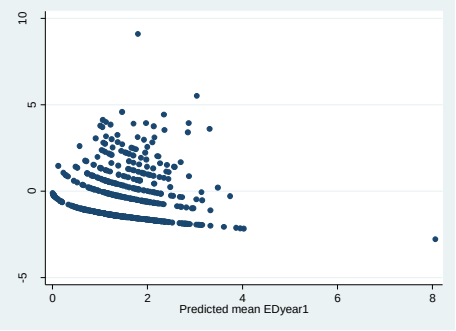
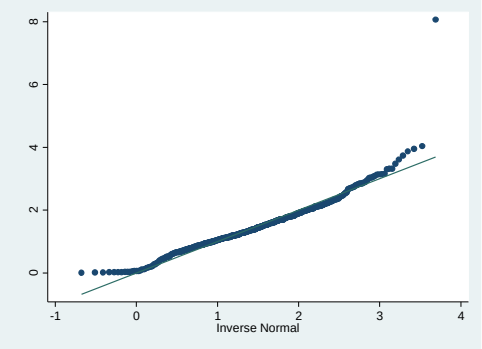
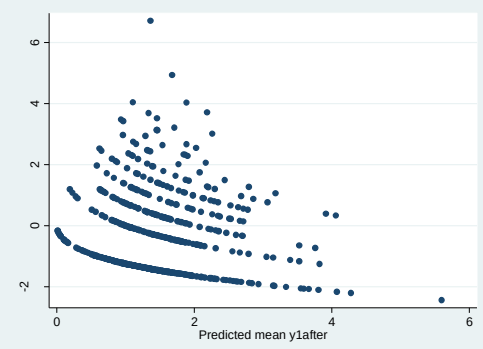
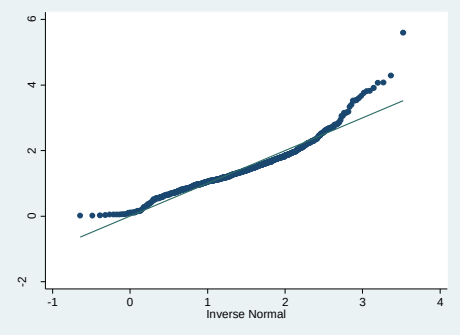
BARRIERS TO RECOVERY

1. **BARRIERS TO ATTENDING GROUPS** For some people a problem with anxiety in social situations made joining groups very difficult. Others were put off when they had attended groups with members who had been drinking or they had to pass people drinking outside a service to attend a group. Some groups were felt to offer advice that was “one size fits all” and they did not feel that there was enough flexibility for people’s different situations. Lack of money could also be a barrier to group attendance either for transport or because of embarrassment about not being able to give a donation if there was a collection.
2. **DIFFICULTY ACCESSING THERAPY** Some people found the right help with mental health issues (after years of trying to find the right help in some cases), but access to help was not always available. Individual therapy or counselling could be particularly difficult to find leaving some people trying to cope with disturbing images, feelings and thoughts that they experienced every-day when they were not drinking. There could be a six-month period of abstinence required to access psychological help which left people in an “impossible situation”.
3. **ISOLATION AND UNEMPLOYMENT** Recovery was a challenge for everyone, but those without a job and close family had to work harder to create structure in their lives and find the support needed to maintain changes. Dealing with the benefit system could also add significant stress and get in the way of positive change.
4. **RELAPSE** Relapse was a common experience and was difficult to overcome without another detoxification. Access to detoxification could be difficult, which meant recovery was on hold.

BRIEF SUMMARY

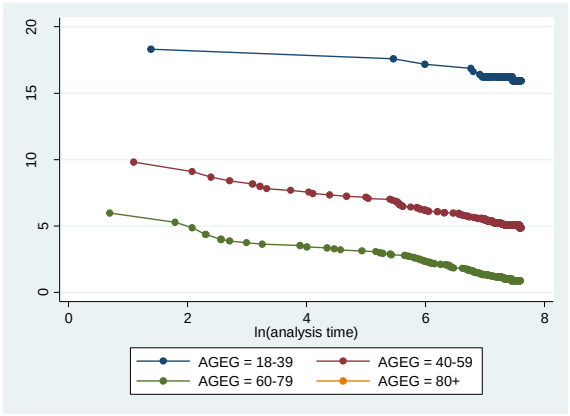
The findings suggest that detoxification in a general hospital setting can be the start (or re-start) of a process of change and recovery from alcohol dependence. The people who are making changes after detoxification often feel they need support to do so, and can experience benefit from access to a variety of sources of support in the months following detoxification. Adapting to abstinence, getting back to day-to-day life, and facing problems are the three main areas that require change in early recovery. If timely help can be provided to support these changes, significant progress in recovery can be made. If there are barriers to change and help-seeking, then this can impede progress in recovery and contribute to relapse.

Appendix J Anscombe residuals

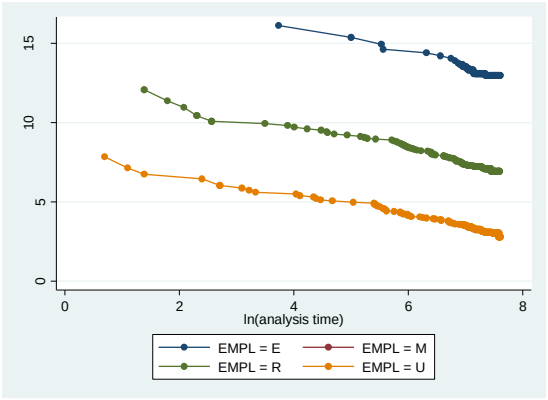
	Anscombe residuals	Q-Q Plot
Additional detoxes in year 1		
Additional detoxes in year 2		
ED attendance in year 1		
Admissions in year 1		

Appendix K Survival plots

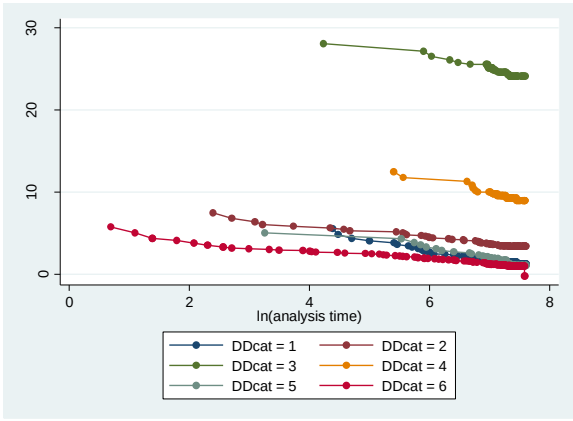
(Testing assumptions of the Proportional Hazards Model)



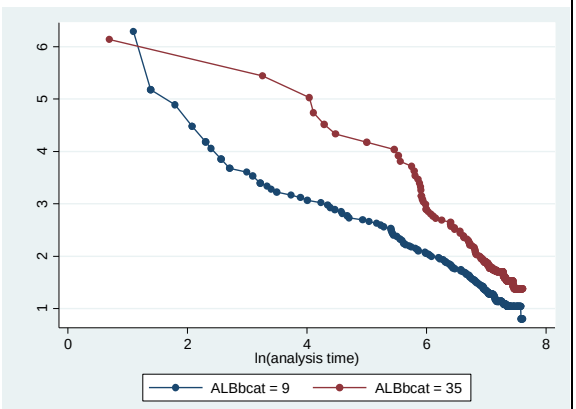
AGE GROUPS



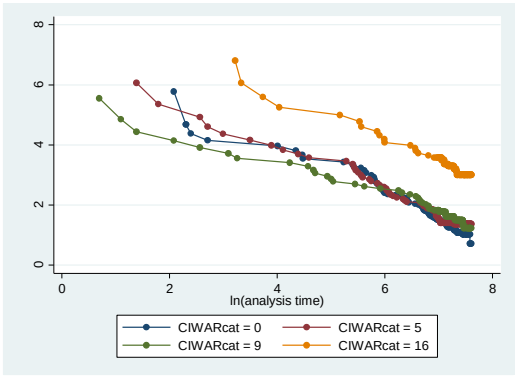
EMPLOYMENT



DIAGNOSIS



ALBUMIN



CIWAR

Appendix L Analysis of missing data

Variables:		Employment		Diagnosis		IMD		ALT blood test		AUDIT		CIWAR	
		Present 722	Missing 20	Present 682	Missing 60	Present 708	Missing 34	Present 710	Missing 32	Present 690	Missing 52	Present 694	Missing 48
AGE	18-39	138 (19.1%)	7 (35%)	123 (18.0%)	22 (36.7%)	136 (19.2%)	9 (26.5%)	134 (18.9%)	11 (34.4%)	141 (20.4%)	4 (7.69%)	137 (19.7%)	8 (16.7%)
	40-59	372 (51.5%)	7 (35%)	350 (51.3%)	29 (48.3%)	359 (50.7%)	20 (58.8%)	361 (50.8%)	18 (56.3%)	351 (50.9%)	28 (53.8%)	351 (50.6%)	28 (58.3%)
	60-79	176 (24.4%)	6 (30%)	174 (25.5%)	8 (13.3%)	177 (25.0%)	5 (14.7%)	181 (25.5%)	1 (3.13%)	170 (24.6%)	12 (23.1%)	176 (25.4%)	6 (12.5%)
	80+	36 (5.0%)	0 (0%)	35 (5.1%)	1 (1.7%)	36 (5.08%)	0 (0%)	34 (4.8%)	2 (6.25%)	28 (4.1%)	8 (15.4%)	30 (4.3%)	6 (12.5%)
GENDER	Male	493 (68.3%)	14 (70%)	470 (68.9%)	37 (61.7%)	480 (67.8%)	27 (79.4%)	484 (68.17%)	23 (71.9%)	474 (68.7%)	33 (63.5%)	475 (68.4%)	32 (66.7%)
	Female	229 (31.7%)	6 (30%)	212 (31.1%)	23 (38.3%)	228 (32.2%)	7 (20.6%)	226 (31.8%)	9 (28.1%)	216 (31.3%)	19 (36.5%)	219 (31.6%)	16 (33.3%)
Employment	Employed	n/a	n/a	124 (18.7%)	23 (38.3%)	144 (20.9%)	3 (9.1%)	135 (19.5%)	12 (38.7%)	143 (21.1%)	4 (9.3%)	140 (20.5%)	7 (17.5%)
	Medically retired			27 (4.1%)	2 (3.3%)	28 (4.1%)	1 (3.03%)	28 (4.1%)	1 (3.23%)	27 (4.0%)	2 (4.7%)	28 (4.1%)	1 (2.5%)
	Retired			163 (24.6%)	6 (10%)	166 (24.1%)	3 (9.09%)	167 (24.2%)	2 (6.45%)	152 (22.4%)	17 (39.5%)	158 (23.1%)	11 (27.5%)
	Unemployed			348 (52.6%)	29 (48.3%)	351 (50.9%)	26 (78.8%)	361 (52.2%)	16 (51.61%)	357 (52.6%)	20 (46.5%)	356 (52.2%)	21 (52.5%)
AUDIT	Median	34	32	34	36	34	37	34	36.5	n/a	n/a	34	40
	IQR	27-40	23-40	26-40	31-40	26-40	30-40	26-40	28-40			26-40	30-40
CIWAR	Median	9	6.5	9	11	9	10	9	7	9	6	n/a	n/a
	IQR	4-16	5-13.5	4-11	5-16	4-15	7-14	5-16	4-12	5-16	4-9		

Appendix M Analysis of missing data for multivariate regression of engagement

		Present n=627	Missing n=115	Test
AGE	18-39	111 (17.7%)	34 (29.6%)	0.008**
	40-59	323 (51.5%)	56 (48.7%)	
	60-79	164 (26.2%)	18 (15.65%)	
	80+	29 (4.6%)	7 (6.09%)	
GENDER	Male	434 (69.2%)	42 (36.5%)	NS
	Female	193 (30.8%)	73 (63.5%)	
Employment	Employed	117 (18.7%)	30 (31.6%)	0.024*
	Medically retired	27 (4.3%)	2 (2.1%)	
	Retired	152 (24.2%)	17 (17.9%)	
	Unemployed	331 (52.8%)	46 (48.4%)	
AUDIT	Median	44	36	0.012*
	IQR	26-40	30-40	
CIWAR	Median	9	10	NS
	IQR	4-15	5-15	

Appendix N Data Management Plan for PHE Data

a. Data from PHE will be stored securely in the University J Drive and be password protected. If anyone else needs to access the data (supervisors might) I will need to ensure all Personnel with access to Personal Data provide a written undertaking that they understand and will act in accordance with the DPA, will not share passwords, and will protect the confidentiality of the Personal Data.
b. Data will only be accessed by the recipient from University computers not own devices; laptop access will be via Remote Desktop only so that no data will be stored on the device itself.
c. Data will be destroyed at the end of the [trust name redacted] contract or earlier if use of the data is complete. Should I need to extend the term of processing, PHE will facilitate an amendment to allow me to retain the data for longer. The Data must be deleted in line with section 8 of this Data Destruction Standard: http://content.digital.nhs.uk/media/23585/Data-destruction-standards/pdf/HSCIC_Data_Destruction_Standard_v3.2.pdf. When the time comes to destroy the data the process is to put in a service line ticket requesting that this be done, stipulating that the folder should also be removed from any backups that contain it. This should include all hard or soft copies of the manipulated or derived data generated from the Data that does not comply with the requirements for anonymisation described in the Anonymisation Standard for Publishing Health and Social Care Data (see below). A certificateof destruction should be issued and forwaded to PHE to confirm the data has been deleted.
d. A risk assessment will be performed before publishing or presenting results to ensure there is no possibility of identifying individuals from the aggregate data taking into consideration contextual factors. (see Anonymisation Standard for Publishing Health and Social Care Data in References 1 below)
e. The correct citation will be used, the Data Recipient must acknowledge the role of PHE as a non-author collaborator by including:

"This project involves data derived from patient-level information collected by the NHS, as part of the care and support of patients. The data is collated, maintained and quality assured by the National Drug Treatment Monitoring System, which is part of Public Health England (PHE). Access to the data was facilitated by the PHE Office for Data Release."

f. It may also be important to acknowledge collaborators with co-authorship.