

**THREE STUDIES INVESTIGATING QUALITY
INDICATORS FOR THE TREATMENT OF
SUBSTANCE USE DISORDERS AND
COMORBIDITY: CONTINUITY OF CARE,
TREATMENT NEED AND PATIENT
SATISFACTION**

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KEY TO ABBREVIATIONS

SUD	Substance use disorder
AUD	Alcohol use disorder
CoC	Continuity of care
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders- Fourth Edition
DSM-5	Diagnostic and Statistical Manual of Mental Disorders- Fifth Edition
ICD-10	International Classification of Diseases- Tenth Edition
APA	American Psychological Association
DASS-21	Depression Anxiety Stress Scale- 21
NSMHWB	National Survey of Mental Health and Wellbeing
AIHW	Australian Institute of Health and Wellbeing
PTSD	Post Traumatic Stress Disorder
ECA	Epidemiological Catchment Area
WHO	World Health Organisation
CBT	Cognitive Behavioural Therapy
SSRI	Selective Serotonin Reuptake Inhibitor
RCT	Randomised Controlled Trial
NDARC	National Drug and Alcohol Research Council
NHMRC	National Health and Medical Research Council
MINI 6.0	Mini International Neuropsychiatric Interview- Sixth Edition
MMSE	Mini Mental State Examination
ASI-SR	Addiction Severity Index- Self Report
ASI	Addiction Severity Index
RTCQ-TV	Readiness to Change Questionnaire- Treatment Version
MHLC	Multidimensional Health Locus of Control Scale
SWLS	Satisfaction With Life Scale
TPQ	Treatment Perception Questionnaire

ABSTRACT

It has been suggested that existing standard treatments for substance use disorders do not adequately meet the complex needs of patients with comorbidity (co-occurrence of substance use disorders and mental disorders), thus subjecting patients to suboptimal treatment quality and outcomes. To date, there remains limited knowledge on the quality of treatments currently received by patients with comorbidity at existing services. The overarching aim of this thesis was to investigate three quality indicators in the treatment of substance use disorders and comorbidity: continuity of care, treatment need and patient satisfaction. The objective was to compare the quality of treatment received by patients with and without comorbidity at existing standard treatments, to identify the unique needs of patients with comorbidity, and to provide practical recommendations for future research, service delivery and healthcare policy.

The thesis was informed by a concurrent mixed-methods design, which included a series of three research studies. Each contributing study aimed to investigate a different aspect of the overarching thesis aim, and utilised a different methodological approach. The series of studies included a theoretical review of the literature, qualitative study using semi-structured interviews and quantitative study using survey research methods.

Continuity of care is considered critical in the treatment of comorbidity; yet there exists little agreement as to its meaning, application and measurement in this treatment context. Similarly, it is unknown whether patients with comorbidity experience poorer continuity of care when compared to patients with single diagnoses, and if improvements to continuity of care are associated with positive outcomes. A systematic search of the literature identified 18 studies (total $n=199,442$ participants) that investigated continuity of care in the treatment of comorbidity. Continuity of care was found to be variably defined, as both a singular or multidimensional construct. Five core types of continuity emerged as critical in

the treatment of this patient group. There was unclear evidence from four studies (total $n=1,649$ participants) that patients with comorbidity are subject to poorer continuity of care in treatment, when compared to patients with single diagnoses. However, this inconsistent data might be explained the variable measurement of CoC across contributing studies. Some consistent evidence from three studies (total $n=1,451$ participants) suggested achieving continuity of care improves patient and treatment-related outcomes for this patient group.

To date, efforts to assess the quality of available treatments for comorbidity have involved quantitative objective methods. These methods may be considered limited in this context, as they fail to capture the quality of care received by patients. In addition, there is a common belief that patients with comorbidity are less satisfied with standard treatments when compared to patients with single diagnoses. However, studies conducted to date have failed to control for a number of variables which have shown importance in single diagnoses samples. A series of two studies were designed to address these aforementioned gaps in the literature. A qualitative study was designed to explore patients' perceptions of treatment for alcohol use disorders, in relation to the quality indicators: continuity of care, treatment need and patient satisfaction. Responses from semi-structured interviews were examined using the framework method of analysis, and data were compared among patients with ($n=15$) and without ($n=19$) comorbidity. Similarly, a cross-sectional quantitative study was conducted using survey methods. This study assessed patient satisfaction with treatment for an alcohol use disorder, in a properly powered sample of 89 patients. Patient satisfaction with treatment was compared among patients with ($n=40$) and without ($n=49$) comorbidity. This study also assessed and controlled for treatment setting, treatment readiness, locus of health control and general life satisfaction.

Unexpectedly, the series of studies found that patients with comorbidity did not report global deficits in the quality of treatment received, when compared to patients with single

disorders. Results produced from the qualitative study found that the major themes relating to continuity of care, treatment need and patient satisfaction were comparable between the groups. Similarly, results from the quantitative study found no differences in patient satisfaction with treatment amongst patients with ($M= 25.10$, $SD = 8.12$) and without ($M= 25.43$, $SD= 6.91$) comorbidity ($p= 0.56$), even after controlling for the impact of treatment setting, treatment readiness, locus of health control and general life satisfaction ($p= 0.75$). In the context of this research, existing standard treatments appear to be suitable in meeting the overall needs of patients with comorbidity. However, an item-by-item comparison of the satisfaction instrument found patients with comorbidity were significantly more dissatisfied with staffs' understanding of the type of help they wanted in treatment. In addition, data produced from the qualitative study unveiled five basic themes which were uniquely valued by patients with comorbidity, when compared to patients with single diagnoses. Unique themes related to patients' desire for services to target psychological symptoms through effective medications, psychological treatments, dependable relationships with staff and better coordination of care with services for mental illness.

Clinicians, services directors and policy makers are encouraged to consider the suggestions outlined in this research, to improve the treatment of patients with comorbidity in existing services. Improvements to treatment quality might be achieved through staff education and training in the treatment of mental illness, staff selection criteria, better management of staff rostering, improved coordination between addiction and services for mental illness and best practice service provision frameworks. Findings highlight the importance of achieving uniformity in the application and measurement of continuity of care, using multidimensional validated instruments. However, findings produced from this thesis are limited, in that patients included in the sample had been engaged in treatment for at least five days. Thus, findings do not reflect the experiences of patients who were unable to access

treatment, those who prematurely dropped out of treatment and patients who had been engaged in lengthy treatment periods. Next, research should look to examine the impact of treatment quality on accessing treatment, ongoing treatment prognosis and long-term outcomes for patients with comorbidity.

DECLARATION

I, Stacey McCallum, declare that this submission for the degree of combined Master of Psychology (Clinical) and Doctor of Philosophy is my own work and that, to the best of my knowledge, it contains no material previously published or written by another person, except where reference has been made. I accept that this work contains no material that has been accepted for the award of any other degree or diploma in my name in any university or tertiary institution. No part of this work will, in the future, be used in a submission in my name for any other degree or diploma, in any other university or tertiary institution, without approval from the University of Adelaide and any partner institution responsible for the joint award of this degree.

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Published works:

Chapter three: Study one

McCallum, S.L., Mikocka-Walus, A.A., Turbull, D.A., & Andrews, J.M. (2015). A literature review of continuity of care in the treatment of dual diagnosis: Definitions, applications and implications. *Journal of Dual Diagnosis*. Accepted May 27, 2015.

Chapter four: Study two

McCallum, S.L., Mikocka-Walus, A.A., Gaughwin, M.D., Andrews, J.M., Turbull, D.A. (2015). "I'm a sick person, not a bad person": Patient experiences of treatment for alcohol use disorders. *Health Expectations*. Accepted May 22, 2015.

Chapter five: Study three

McCallum, S.L., Andrews, J.M., Gaughwin, M.D., Turnbull, D.A., Mikocka-Walus, A.A. (Patient satisfaction with treatment for alcohol use disorders: Comparing patients with and without severe mental health symptoms. *Patient Preference and Adherence*. Accepted November 10, 2015.

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OVERVIEW

Outline of Thesis

This research investigated the quality of treatment received by patients with and without comorbidity (co-occurrence of substance use disorders and mental disorders) in existing standard care. More specifically, the research targeted three indicators of treatment quality: continuity of care, treatment need and patient satisfaction. This research represents a novel attempt to compare the quality of treatment received by patients with and without comorbidity, using a mixed-methods approach to better understand patients' experiences of treatment. Chapter one of the thesis provides an introduction to the field of treatment for comorbidity, and includes a review of the current literature. Chapter two provides an exegesis, which aims to contextualise the research and present a rationale for the decisions made throughout the research process. Chapters three to five contain the three independent studies that were undertaken to address the overarching thesis aim. Chapter six provides a critical discussion of the research findings, and their implications for service delivery and healthcare policy. Chapter seven includes the references made to the literature. An appendix is presented in chapter eight, which includes supplementary documentation used throughout this research and thesis.

Outline of Candidature

This thesis was undertaken to fulfil the requirements of the combined Master of Psychology (Clinical) and Doctor of Philosophy degree, undertaken at the University of Adelaide, South Australia, Australia. This program (*4 years full-time*) combines a full Psychology Master's (Clinical) course load (*equivalent 2 years full-time*) and a full program for a Doctor of Philosophy (*equivalent 3 years full-time*), and specifies that research must adopt a clinical psychology focus. The three papers that form this work, along with nine Master's subjects and three clinical placements (a total of 1,116 placement hours) were completed within the period of 3.5 years of full-time study. A total of \$2,400 in funding was received over and above the standard support provided to Doctor of Philosophy students from the School of Psychology, to fund data collection and conference travel. An additional \$1,000 was provided by the Adelaide University Rural Health Alliance to assist with relocation to Mount Gambier, South Australia, for a rural clinical placement. All subject and practical requirements of the Psychology Master's (Clinical) program have been fulfilled. The following thesis is submitted for the requirements of the Doctor of Philosophy program.

CHAPTER 1. INTRODUCTION AND LITERATURE REVIEW

1.1 Preamble

The first chapter of the thesis provides an introduction to the field of co-occurring substance use disorders (SUDs) and mental disorders, often referred to as “comorbidity”. The phenomenon of comorbidity emerged in the late 1980’s. During the 1980’s and 1990’s a series of research studies emerged, illustrating the high prevalence of comorbidity, the causes of comorbidity and the treatment course and outcomes associated with the diagnosis. In more recent times, a growing number of trials have assessed the effectiveness of medication and psychosocial interventions for the treatment of comorbidity. So far, these efforts have yielded minimal consensus, and there remain limited evidence-based recommendations to guide the treatment of comorbidity. At present, research is attempting to explore the suitability of service models and interventions for comorbidity, to identify pragmatic methods for effective treatment delivery. The research presented in this thesis contributes to the current focus of the comorbidity literature. This thesis largely focused on the comorbidity of alcohol use disorders (AUDs) and symptoms of depression and/or anxiety. These disorders were chosen, as they are most prevalent in the Australian population and most common at Australian treatment services (Slade, McEvoy, Chapman, Grove, & Teesson, 2015). Collectively, these disorders place significant burden on Australian economic and healthcare resources, and are associated with significant personal, familial and social burden (Doran, 2013).

This chapter begins with an outline of the three contributing studies of the thesis followed by reference to the key concepts underlying the research. A review of the recent literature includes prevalence rates, causes, implications of and methods for treating disorders for patients with comorbidity. This is followed by a review of the treatment quality indicators assessed in this thesis. Theoretical models commonly applied in the delivery of healthcare are

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presented to establish a basis for the research. Lastly, a review of the current gaps in the literature and the resulting aims of the thesis are presented.

1.2 Outline of the studies contributing to the thesis

The overall aim of the current thesis was to explore three indicators of treatment quality for patients with substance use disorders and comorbidity, namely: continuity of care, treatment need and patient satisfaction. The objective was to compare the quality of treatment received by patients with and without comorbidity, with the purpose of uncovering specific differences in the care received by patients with comorbidity at existing services. To examine these aims *study one* (chapter 3 of the thesis) was a review of the literature, wherein definitions of continuity of care (CoC) were explored, to reveal which aspects of continuity are central to the treatment of comorbidity. This study also aimed to appraise the measurement and application of CoC in this treatment context, to identify areas of consistency and determine its importance in the treatment of comorbidity. *Study two* (chapter 4 of the thesis) involved a qualitative research design using semi-structured interviews, to explore patients' experiences of treatment for an alcohol use disorder (AUD) in areas of CoC, treatment need and patient satisfaction. *Study two* also compared the experiences of patients with and without co-occurring mental conditions, to identify unique issues relating to the complex needs of patients with comorbidity. Lastly, *study three* (chapter 5 of the thesis) compared patient satisfaction with AUD treatment among patients with and without co-occurring mental conditions, using a quantitative survey research design. This study also aimed to better understand how standard AUD treatment might be improved to better meet the needs of patients with comorbidity. Comprehensive information detailing the aims and objectives of the three contributing studies to the thesis are provided in subsequent chapters.

1.3 Key Concepts

1.3.1 Substance use disorder

According to the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) and International Classification of Diseases, 10th Edition (ICD-10), a substance use disorder (SUD) is classified as either dependence and/or abuse/harmful use to alcohol and/or drugs (Rounsaville, 2002). Dependence is regarded as a maladaptive pattern of frequent substance use that impairs functioning; and is characterised by tolerance and withdrawal (Collins & Dermen, 2004). The DSM-IV refers to abuse as periodic use of substances that leads to functional impairment and must meet one secondary criterion (i.e. continued use despite social, legal or interpersonal harms) (Hasin, 2003). In contrast, the ICD-10 refers to harmful use of substances which is defined as use that leads to physical and/or psychological harm (i.e. dysfunctional behaviour) (Rounsaville, 2002). Both the DSM-IV and ICD-10 classify alcohol use disorders (AUDs) and drug use disorders under the overarching classification of SUDs, where each incorporate a two factor fit model of dependence and/or abuse/harmful use (Schuckit, 2009).

The introduction of the DSM-5 in May, 2013 saw a change in the classification of SUDs. Rather than a two factor model, dependence and abuse were combined to a single use disorder and organised according to three severity ratings: mild, moderate and severe (APA, 2013b). The DSM-5 also removed the legal problems criterion and added a new criterion representing cravings (APA, 2013b). Preliminary studies anticipated that the single use disorder criteria (DSM-5) would provide a superior fit for population samples compared to two factor models (DSM-IV) (Hagman & Cohn, 2011; Mewton, Slade, McBride, Grove, & Teesson, 2011), and predicted that the prevalence of SUDs would increase with the introduction of the DSM-5 criteria (Mewton et al., 2011). AUDs are the most common of all

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SUDs in Australia (Slade, Johnston, Oakley Browne, Andrews, & Whiteford, 2009).

Accordingly, this chapter will review the literature on both SUDs and AUDs. In particular, *study one* of the thesis focuses on SUDs using either DSM-IV or ICD-10 criteria. *Study two* and *study three* focus only on AUDs using the DSM-5 criteria.

1.3.2 Mental disorders

A mental disorder is characterised as a clinically significant behavioural or psychological syndrome or pattern (First, Frances, & Pincus, 2004), which causes distress or disability in functioning for the individual (APA, 2000). Both the DSM and ICD stipulate that symptoms of mental illness must meet diagnostic thresholds and specific criteria for a person to classify as having a mental disorder (NDARC, 2010). SUDs are classified as a type of mental disorder in the DSM and a type of mental and behavioural disorder in the ICD. In this thesis however, the term mental disorder refers to any mental disorder, excluding SUDs. In particular, *study one* focuses on patients who meet criteria for mental disorders according to the DSM-IV and/or mental behavioural disorders according to the ICD-10.

1.3.2.1 Mental conditions

Increasingly, mental illness is viewed as sitting on a continuum of symptoms, ranging from mental health to mental disorder (Keyes, 2002). In treatment, a proportion of patients present with symptoms of mental illness, which fall short of meeting full diagnostic criteria (NDARC, 2010); but nonetheless negatively affect the patient's functioning and treatment outcomes (Saunders & Robinson, 2002). As a result, researchers have argued that diagnostic assessments lack sensitivity and rather recommend the use of continuous measures of mental symptoms (Fein, Di Sclafani, Finn, & Scheiner, 2007). In the present thesis, the term mental condition is used to describe those patients who have *symptoms* of a mental disorder, but *may*

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not meet the diagnostic threshold. Similar terms often used in the literature include: sub-syndromal, sub-threshold, partial and sub-diagnostic disorders (Fein et al., 2007; NDARC, 2010).

Study two and *study three* of the thesis focus on the specific mental conditions of depression and anxiety, as assessed by the Depression Anxiety Stress Scale-21 (Lovibond & Lovibond, 1995). Depression's main symptom is low mood and those affected often report feeling sad, empty, hopeless, guilty, worthless, and experience fatigue and a loss of pleasure or interest in activities (APA, 2013a; Gordon, 2008). To be diagnosed with major depression, symptoms must be present for at least two weeks. Anxiety refers to a continued fear or worry in response to a variety of triggers and those affected describe problems with relaxing, sleeping and may experience physical reactions such as sweating and nausea (APA, 2013a; Gordon, 2008). There are six different forms of anxiety disorders recognised by the DSM-5 and ICD-10, which possess distinct criterion requirements (i.e. social anxiety disorder, generalised anxiety disorder, obsessive anxiety disorder, panic disorder & agoraphobia, post-traumatic stress disorder and specific phobias). A qualified specialist uses clinical diagnostic interviewing methods to formulate a mental disorder diagnosis.

1.3.3 Comorbidity

In the general medical context, comorbidity refers to the presence of more than one physical condition (Payne, Abel, Guthrie & Mercer, 2013). However, the term comorbidity also refers to the co-occurrence of more than one disease and/or disorder at any time throughout the lifetime of an individual (Hall, 2006). More recently, comorbidity has become synonymous with the specific co-occurrence of SUDs and mental disorders (Kushner, Abrams, & Borchardt, 2000). In this field, the term comorbidity is often used interchangeably with dual diagnosis and double diagnosis (Murthy & Chand, 2012). *Study one* of the thesis focuses on

the comorbidity of SUDs and any mental disorder according to DSM-IV and/or ICD-10 criteria.

Traditionally, the term comorbidity referred only to the co-occurrence of two disorders that *both* satisfied diagnostic criteria. However, researchers have begun to acknowledge the co-occurrence of SUDs and *mental conditions* in the classification of comorbidity (Fein et al., 2007). *Study two* and *study three* focus specifically on the comorbidity of AUDs according to DSM-5 criteria and the mental conditions depression and anxiety, as assessed by the Depression Anxiety Stress Scale. A rationale for the use of different classifications of comorbidity is provided in chapter 2 of the thesis.

1.3.4 Quality indicators

In healthcare, quality indicators refer to the structural, process or outcome aspects of care which can be assessed using standardised criteria and standards (McGlynn & Asch, 1998). Such indicators are used in order to assist in making judgements about quality of care and to identify problem areas to inform policy making (Campbell, Braspenning, Hutchinson, & Marshall, 2002; Lawrence & Olesen, 1997; Mant, 2001). Whilst there exist a number of methods for assessing quality in the treatment of comorbidity, this thesis focuses on three quality indicators: CoC, treatment needs and patient satisfaction. Brief definitions of the constructs are provided in this section; however, a detailed review of each quality indicator is presented later in this chapter.

1.3.4.1 Continuity of care (CoC)

There exist a number of different definitions of CoC in the general healthcare literature. In broad medical terms CoC is understood as how an individual's healthcare is coordinated and connected over time (Gulliford, Naithani, & Morgan, 2006; Haggerty et al., 2003b).

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However, how CoC is understood often depends on the treatment setting and the patient population under investigation (Haggerty et al., 2003b). There is a lack of consensus in the literature as to the definition of CoC in the treatment of comorbidity. In fact, *study one* of this thesis explicitly aims to consolidate the definition of CoC in the treatment of comorbidity.

1.3.4.2 Patient treatment need

Patient treatment need refers to patients' perceived areas of need, which they believe can be identified and addressed during treatment (Asadi-Lari, Tamburini, & Gray, 2004).

1.3.4.3 Patient satisfaction with treatment

Patient satisfaction with treatment assesses patients' view of whether treatment has met their individual desires and expectations (Schulte, Meier, & Stirling, 2011). Patient satisfaction with treatment also refers to the extent patients value the treatment they receive (Attkisson & Zwick, 1982).

1.4 Prevalence of disorders

1.4.1 Prevalence of disorders in the general population

1.4.1.1 Prevalence of substance use disorders (SUDs) in the general population

SUDs are one of the most prevalent mental disorders in Australia (Slade, Johnston, et al., 2009). In 2007, the National Survey of Mental Health and Wellbeing (NSMHWB) assessed a representative sample of the Australian population to determine the prevalence of mental disorders (Hall, Teesson, Lynskey, & Degenhardt, 1999). According to the NSMHWB nearly one quarter (24.7%) of the Australian population reported a SUD at some point throughout

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their life, and 5.1% met SUD criteria in the previous 12-months (Slade, Johnston, et al., 2009). The 12-month prevalence of SUDs reported in Australia is similar to general population surveys conducted in other Westernised countries such as the US, Germany and Netherlands (ranging from 3.8% to 11.3%) (Baumeister & Harter, 2007). Results from the 2007 Australian NSMHWB found females in the general population were less likely to meet criteria for a SUD, when compared to males (OR=0.3, 95% CI= 0.3-0.4) (Slade, McEvoy, Chapman & Teesson, 2015).

1.4.1.2 Prevalence of alcohol use disorders (AUDs) in the general population

In Australia, alcohol is considered the substance most likely to be implicated in a SUD, as alcohol is widely available and widely consumed (AIHW, 2011). AUDs are approximately three times more common in the general Australian population, than any other illicit drug use disorders; the next most common being cannabis use disorders (1.7%) (Henderson, Andrews, & Hall, 2000). The 2007 NSMHWB reported that 4.3% of Australian adults suffered from an AUD within the previous 12-months (harmful use: 2.9%, dependence: 1.4%) and a total of 22.1% had experienced an AUD at some time (harmful use: 18.3%, dependence: 3.9%) (Slade, Johnston, et al., 2009; Teesson et al., 2010). Research shows that being male, not married, being an immigrant from a non-English speaking country and being unemployed are associated with having an AUD (Jenkins et al., 1998; Slade, Johnston, et al., 2009; Teesson, Hall, Lynskey, & Degenhardt, 2000; Teesson et al., 2010). The average age of alcohol abuse onset in Australia is 22.7 years and 24.3 years of age for alcohol dependence (Teesson et al., 2010). Whilst use of alcohol in the previous 12-months is higher in Australia (77.2%) compared to the United States (56.5%), problematic alcohol use, as assessed by the prevalence of alcohol dependence, is comparable (Australia 5.3% versus United States 5.1%) (McBride et al., 2009).

1.4.1.3 Prevalence of anxiety and affective disorders in the general population

Epidemiological research in Australia estimates that 15% and 26.3% of the population suffer from an affective and anxiety disorder respectively throughout their lifetime (Slade, Johnston, et al., 2009). More specifically, the 2007 NSMHWB reported that in any 12-month period, 14.4% of the Australian population meet criteria for any anxiety disorder, the most common being post-traumatic stress disorder (PTSD) (6.4%), social phobia (4.7%) and agoraphobia (2.8%) (Slade, Johnston, et al., 2009). Similarly, 6.2% of the Australian population met 12-month criteria for any affective disorder, where depressive episodes were found to be most common (4.1%) followed by bipolar affective disorder (1.8%) (Slade, Johnston, et al., 2009). Results from the 2007 NSMHWB indicate that when compared to males, females are more likely to meet criteria for both anxiety disorders (OR= 1.7, 95% CI= 1.4-2.0) and mood disorders (1.6, 95% CI= 1.3-2.0) in the general Australian population (Slade, McEvoy, Chapman & Teesson, 2015). Prevalence rates of affective disorders overall in Australia are comparable to other population surveys (Kessler et al., 1994; Regier et al., 1990; Slade, Johnston, et al., 2009).

Over the past 25 years, epidemiological studies report somewhat varied incidence of mental disorders in the general Australian population (Baumeister & Harter, 2007; McBride et al., 2009). A comparison of the 1997 and 2007 Australian NSMHWB highlighted that the 2007 survey utilised different diagnostic assessments to the 1997 survey, and that substantial increase to the availability of treatment for mental disorders in Australia may have underestimated the prevalence of disorders in the population in the 2007 survey (Slade, Teesson, et al., 2009). Similarly, the 2007 survey received a lower response rate of 60% compared to the 1997 survey (78%), which may have also underrated the prevalence of disorders (Slade, Teesson, et al., 2009). Despite methodological discrepancies across studies,

the prevalence of mental disorders in Australia are comparable to the prevalence reported in other westernised countries (Slade, Teesson, et al., 2009). Thus, it can be appreciated that as independent entities, general population surveys indicate that SUDs, anxiety and affective disorders occur frequently in the general population.

1.4.2 Prevalence of comorbidity in the general population

SUDs and mental disorders are likely to co-occur, and several large-scale epidemiological studies support the high prevalence of these comorbidities in the general population (Grant et al., 2004; Kessler et al., 1994; Regier et al., 1990; Teesson et al., 2000; Teesson et al., 2010). A key study was the US Epidemiological Catchment Area study (ECA) ($n= 20,291$) which reported that among individuals who met life-time criteria for an AUD (13.5%), 19.4% also met criteria for an anxiety disorder and 13.4% for an affective disorder (Regier et al., 1990). Similarly, the 1994 US National Comorbidity Study ($n= 8,098$) reported that among respondents who met life-time criteria for alcohol dependence (14.1%), 28% also met criteria for major depression and 37% had an anxiety disorder (Kessler et al., 1994).

In the Australian 1997 NSMHWB, results indicated that among those with a 12-month AUD, 37% also met criteria for any mental disorder, the most common were affective disorders (18%) and anxiety disorders (15%) (Burns & Teesson, 2002). Similar rates of comorbidity were found amongst persons with any mental disorder, where 19% of respondents also met criteria for an AUD. In the 2007 NSMHWB, those with an AUD were 2.6 times more likely to have an anxiety disorder when compared to those without an AUD; however, no associations were found for affective disorders (Teesson et al., 2010). Figure 1 illustrates the 12-month prevalence of comorbidity relative to single disorders in the general Australian population in 1997 (Andrews, Henderson, & Hall, 2001; Teesson et al., 2000). As the figure shows, individuals with comorbidity are likely to present with more than one

comorbid disorder. In this same study, approximately one third (23%) of respondents with an AUD reported two comorbid mental disorders, and 19% had three or more comorbid disorders (Burns & Teesson, 2002).

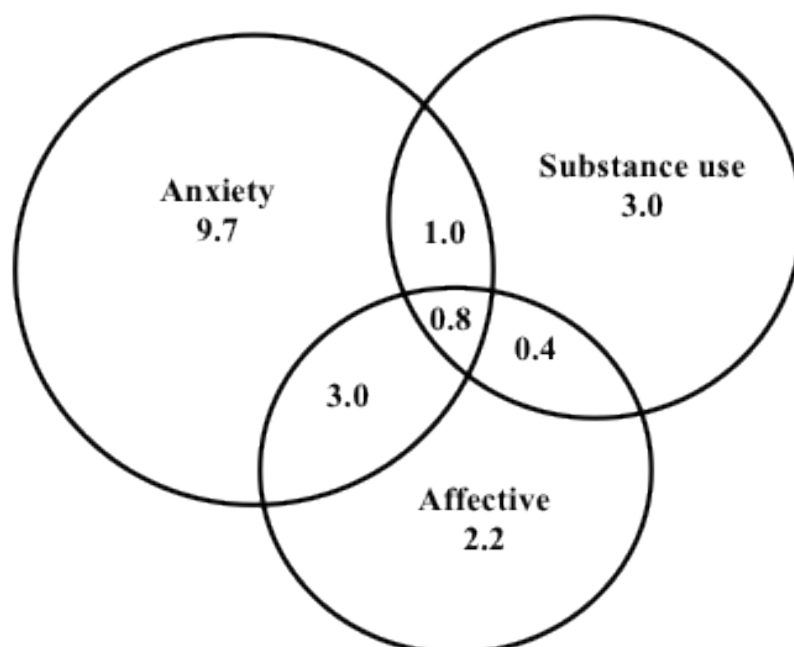


Figure 1. 12-month prevalence (%) of single and comorbid substance use disorders and mental disorders in the Australian population in 1997. Adapted from Slade et al., (2009).

1.4.3 Prevalence of comorbidity among treatment samples

Comorbidity is associated with increased disability and functional impairment; and patients are highly likely to require treatment intervention (Compton, Thomas, Stinson, & Grant, 2007). As a result, the prevalence of comorbidity is higher in treatment samples when compared to the general population (Burns, Teesson, & O'Neill, 2005; Wu, Kouzis, & Leaf, 1999). Similar to population studies, AUDs are the most common of all SUD in clinical treatment settings, and comorbid anxiety and depressive disorders are most common amongst those who seek treatment for an AUD (Burns et al., 2005; Landheim, Bakken, & Vaglum, 2006).

1.4.3.1 Prevalence of comorbidity at single service sites versus multiple service sites

Studies conducted at single service sites report that up to 53% and 66% of patients in AUD treatment also meet lifetime criteria for anxiety and depressive disorders, respectively (Haver & Dahlgren, 1995; Tomasson & Vaglum, 1995). However, results from epidemiological studies conducted across multiple service sites report a lower incidence of comorbidity in treatment. For example, results from the US National Epidemiological Survey on Alcohol and Related Conditions found 40% and 33% of patients seeking AUD treatment also met criteria for a mood and anxiety disorders respectively (Grant et al., 2004). More specifically, a multisite study ($n=501$) investigating the 12-month prevalence of anxiety and depressive disorders among AUD treatment samples reported the most common disorders were phobias (28.2%), generalised anxiety (26.1%) and major depression (19.9%) (Ross, Glaser, & Germanson, 1988). Previous studies have also highlighted the prevalence of personality disorders among AUD treatment samples, as ranging from 23% to 34% (Driessen et al., 1998; Haver & Dahlgren, 1995). Interestingly, Driessen et al., (1998) found that all patients with comorbid AUD and personality disorders in treatment ($n=14$) also met criteria for anxiety and/or depressive disorders.

1.4.3.2 Prevalence of comorbidity in different treatment modalities/settings

Prevalence rates of comorbidity in treatment also vary depending on the specific modality and setting of treatment. For example, the prevalence of comorbidity is believed to be highest in inpatient hospital settings, as patients' needs are considered severe enough to warrant hospital admission (Muijen, Marks, Connolly, & Audini, 1992). A US study ($n=425$) reported a high prevalence (85%) of mental disorders among patients seeking AUD treatment in an inpatient hospital setting (Compton, Cottler, Phelps, Ben Abdallah, & Spitznagel,

2000). A large multisite Australian study detected comorbid mental disorders in 52% of inpatients with a SUD ($n=18,283$), across 458 inpatient hospital settings (Lai, Man, & Huang, 2009). High rates of comorbidity have also been reported in outpatient treatment settings. A 2005 Australian study found that 69% of patients ($n=71$) seeking treatment for an AUD in an outpatient setting, also met criteria for anxiety (45%) and depressive (55%) disorders; the most common were generalised anxiety (28%), social phobia (21%) and depression (55%) (Burns et al., 2005). Few studies have assessed the prevalence of comorbidity within residential rehabilitation treatment facilities (NDARC, 2010). However, a 2011 Australian study reported comorbidity rates as ranging from 62%-71%, among patients ($n=278$) with an SUD in the Salvation Army residential recovery service. The most common disorders were depressive disorder (79.3%), panic disorder (75.7%) and phobias (73.9%) (Mortlock, Deane, & Crowe, 2011).

1.5 Causes, outcomes, models of care, treatment approaches and importance of quality indicators

1.5.1 Causes of comorbidity

1.5.1.1 Substance-induced disorders

It is well recognised in the literature that there exists a causal pathway between substance use and the onset of mental disorders. The DSM refers to this as *substance-induced disorders*, where long-term exposure to substance(s) induces symptoms of mental illness (APA, 2013a). For example, methamphetamine intoxication stimulates neuro-chemical changes in the brain which induce temporary psychotic symptoms such as hallucinations and paranoia (McKetin, McLaren, Lubman, & Hides, 2006). Similarly, continued large quantities of alcohol produce

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mood-depressant effects that can lead to a depressive disorder presentation (Gordon, 2008). In a narrative review of the literature Schuckit (2006) described that among patients in treatment for an AUD, 70% met criteria for a substance-induced mood disorder. In addition, excessive alcohol intake is believed to promote the onset of anxiety and stress symptoms; however, the evidence on this is not uniform (Kushner et al., 2000; Posternak & Mueller, 2001). An epidemiological study reported that substance-induced anxiety disorders represented only 0.2% of comorbid diagnoses in the general population (Grant et al., 2004). The prevalence of alcohol-induced anxiety disorders is considered higher among treatment seeking samples. A critical review of 10 studies estimated between 25% to 50% of patients in AUD treatment meet criteria for an alcohol-induced anxiety disorder (Schuckit & Hesselbrock, 1994). However, the majority of studies included in this review assessed anxiety disorders during detoxification from alcohol, and it is likely that patients would no longer meet criteria for an anxiety disorder after prolonged abstinence. This is due to the fact that anxiety is a common symptom of alcohol withdrawal syndrome (Koob, 2013). Whilst there is biological evidence to support the causal link between substance use and symptoms of mental illness (Schuckit, 2006), there are also psychosocial impacts to consider. For example, heavy alcohol use often leads to social isolation and economic disadvantage that may promote the onset of symptoms of depression and anxiety (Liappas, Paparrigopoulos, Tzavellas, & Christodoulou, 2003).

1.5.1.2 Self-medication hypothesis

The causal pathway between substance use and mental disorders is viewed as bidirectional, where pre-existing mental disorders may precipitate substance use. This relationship is described as the *self-medication hypothesis* (Khantzian, 1997); where individuals seek the immediate positive effects of substance use, as a means to gain temporary relief from the

symptoms associated with their pre-existing mental disorder. For example, the short-term relief in symptoms that alcohol provides for those with anxiety and/or depression is a motivator to continue alcohol consumption (Center for Substance Abuse Treatment, 2005; Gordon, 2008). In a narrative review of the literature, Kushner et al., (2008) concluded that approximately 75% of anxiety disorders precede the onset of SUDs.

1.5.1.3 The common factor model

The *common factor model* suggests that both substance use and mental disorders develop from shared biopsychosocial risk factors. Several studies suggest that persons with comorbidity have a genetic predisposition to both disorders, based on strong evidence from familial studies, which show high rates of substance use and mental disorders among relatives (Ahmed, Salib, & Ruben, 1999; Mueser, Drake, & Wallach, 1998; Noordsy, Drake, Biesanz, & McHugo, 1994). Similarly, Merikangas et al., (1996) proposed that psychosocial factors such as disruptive family environment, parental abuse and neglect predispose an individual to both substance use and mental disorders. More specifically, experiential factors such as childhood trauma, experiencing child sexual abuse and witnessing domestic violence have been found to increase the use of substances, mental illness and antisocial behaviour when a person reaches adulthood (Dube et al., 2002). One study which assessed childhood trauma among $n=155$ adult treatment seeking patients for an AUD, found a significant correlation between childhood trauma and the onset of comorbidity as an adult, in particular the onset of post traumatic stress disorder (PTSD) (Langeland, Draijer, & Brink, 2004).

1.5.1.4 The impact of aetiology on the treatment experience

Traditionally, clinicians have focussed heavily on ascertaining the causal direction of patients' comorbid disorders to inform treatment strategies (NDARC, 2010). However, recent

guidelines now argue that determining the onset of comorbid disorders is ineffectual, as treatments informed by causal directions are mostly ineffective (NDARC, 2010). Despite this shift in clinical practice, a recent review of the literature (Van Boekel, Brouwers, Van Weeghel & Garretsen, 2013) found that many treatment staff hold negative attitudes towards working with patients with comorbidity. In particular, staff were found to have intolerant attitudes towards patients due to their belief that patients possessed high levels of controllability of the etiology and ongoing nature of their disorders (Van Boekel, Brouwers, Van Weeghel & Garretsen, 2013).

1.5.2 Outcomes associated with comorbidity

1.5.2.1 Patient-related outcomes associated with comorbidity

In 2010, SUDs and mental disorders were responsible for 8.6 million premature years of life lost, which is comparable to 232,000 deaths worldwide (Whiteford et al., 2013). Studies have found comorbidity is associated with increased impairment and disability (Andrews et al., 2001; Merikangas et al., 1998), poorer physical, mental health and functioning (Dickey, Normand, Weiss, Drake, & Azeni, 2002; Ouimette, Goodwin, & Brown, 2006; Schafer & Najavits, 2007), increased risk of crime (McMurrin, 2002), poorer occupational functioning (NDARC, 2010), homelessness (Torchalla et al., 2014), increased risk of violence (NDARC, 2010) and suicidal ideation (Driessen et al., 1998).

Some studies report that comorbidity has minimal impact on patient drinking outcomes (Charney, Paraherakis, & Gill, 2001; Marquenie et al., 2006). However, findings from these studies are limited, as they do not account for the amount or type of treatments received by patients over the study period. In fact, Charney (2001) described that patients with comorbidity received more treatment than patients with single AUDs, which might

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explain the comparable alcohol-related outcomes found between groups. Rather, the majority of prospective cohort studies show that that patients with comorbidity in treatment are at high risk of relapse to drinking when compared to single diagnoses groups (Bruce et al., 2005; Curran, Flynn, Kirchner, & Booth, 2000; Driessen et al., 2001; Greenfield et al., 1998; Hasin et al., 2002; Kushner et al., 2005; McCarthy, Tomlinson, Anderson, Marlatt, & Brown, 2005; Willinger et al., 2002). A well designed prospective cohort study ($n=287$) spanning 6-years found mental disorders, particularly major depression and agoraphobia were predictors of relapse for patients in addiction treatment (Landheim et al., 2006). More specifically, a prospective cohort study of outpatients ($n=71$) in Australia illustrated that patients with comorbidity were more disabled and drank more heavily at both treatment entry and at follow-up, when compared to patients with a single disorder (Burns et al., 2005).

1.5.2.2 Treatment-related outcomes associated with comorbidity

There is also strong consensus in the literature that comorbidity adversely affects the course, treatment and prognosis of both disorders in treatment (Grant & Harford, 1995). Treatment studies indicate that comorbidity is associated with decreased motivation for treatment (DiClemente, Nidecker, & Bellack, 2008), increased treatment dropout (Curran, Kirchner, Worley, Rookey, & Booth, 2002), shorter hospital stays (Sinclair, Latifi, & Latifi, 2008), less effective treatment (DiClemente et al., 2008) and that patients with comorbidity are less likely to adhere to treatment recommendations (WHO, 2003).

Taking into consideration the harms and poor outcomes associated with comorbidity, it is not surprising that epidemiological research shows that comorbidity is associated with high service use in Australia (Andrews et al., 2001; Wu et al., 1999). In fact, comorbidity is associated with extensive burden and costs to the healthcare system (Gulliford et al., 2006; Hanninen, Takala, & Keinanen-Kiukaanniemi, 2001; Rush, Urbanoski, Bassani, Castel, &

Wild, 2010); particularly in use of outpatient psychiatric and addiction services (Hoff & Rosenheck, 1999), inpatient stay (Kavanagh, 2003) and continued service re-admission (Tómasson & Vaglum, 1998). Patients with comorbidity are often described as cycling through the “*revolving door*” of treatment (Hunt et al., 2003, pg. 254), which refers to a continual pattern of short-term readmissions to treatment.

1.5.3 Impact of comorbidity on models of care

1.5.3.1 Sequential models of care

Traditionally, an emphasis was placed on ascertaining the causal direction of comorbid disorders in order to guide treatment (Mueser et al., 1998). These guidelines suggested that to effectively treat comorbidity, diagnoses must be classified as either primary or secondary (Mueser et al., 1998). *Sequential* models of care were encouraged, where the primary disorder was treated prior to the secondary disorder using disease-specific treatments (NDARC, 2010; Nunes & Levin, 2004). Disease-specific treatments refer to services that target and treat only one disease, condition or illness, namely: addiction only services or mental health only services. In most cases, *sequential* models of care guidelines prioritised the treatment of the SUD through withdrawal and abstinence (Nunes & Levin, 2004), in order to determine whether symptoms of mental illness were independent or substance-induced (Mueser et al., 1998). Following inpatient stay, patients would receive treatment for their mental disorder from a disease-specific mental health service. Many studies have been published which have applied a *sequential* model of care to provide evidence for the casual relationship between comorbid diagnoses. For example, several pre-post test design studies have found that depressive symptoms tend to alleviate after two to four weeks of abstinence from alcohol (Davidson, 1995; Schuckit & Irwin, 1995; Swendsen & Merikangas, 2000).

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Conversely, results from a long-term follow-up study found that depressive disorders continued for 86-99% of male AUD patients ($n=241$) despite one year of abstinence (Penick, Powell, Liskow, Jackson, & Nickel, 1988). However, the latter study indicated their sample might be over-representative of patients with pre-existing independent mood disorders, and may not have represented typical patients seeking treatment at AUD services. The authors in this study reported a possible explanation for the over-representation of patients with independent mood-disorders could be attributed to patients' severe dependence to alcohol, which required hospitalisation to an inpatient facility (Penick et al., 1988).

More recently, researchers have questioned the need to verify the causal pathway between comorbid disorders, arguing that once comorbidity is recognised it is likely that both disorders bi-directionally influence each other (Center for Substance Abuse Treatment, 2005; NDARC, 2010). For example, symptoms of anxiety and/or depression are likely to prompt substance use; and continued substance use is likely to heighten symptoms of anxiety and/or depression (Stewart & Conrod, 2008). In addition, *sequential* models of care have attracted criticism, stating that it is often difficult to determine the direction between diagnoses as the relationship between disorders may change over time or both diagnoses may have had an early onset (Kay-Lambkin et al., 2004; NDARC, 2010). Accordingly, there is an emerging view in the literature that disease-specific treatments and *sequential* models of care do not adequately meet the complex needs of patients with comorbidity in treatment (Kay-Lambkin, Baker, & Lewin, 2004; Murthy & Chand, 2012; Schulte et al., 2011). Considering these challenges, current treatment guidelines point to the advantages of models of care that aim to treat both disorders at the one time (Kranzler & Rosenthal, 2003; Murthy & Chand, 2012; NDARC, 2010; Smith & Book, 2008; Stewart & Conrod, 2008).

1.5.3.2 Parallel models of care

Parallel approaches to the treatment of comorbidity are most commonly seen in current clinical practice (Stewart & Conrod, 2008). This is where the patient with comorbidity receives treatment for both the SUD and mental disorder simultaneously from disease-specific treatments, but from different clinicians and/or services (NDARC, 2010). Whilst *parallel* approaches to treatment more adequately meet the diverse needs of patients with comorbidity, a number of practical barriers have been identified which hinder effective treatment delivery. Firstly, participating in two different treatments produces a high burden on the patient and often prompts dropout from treatment (Stewart & Conrod, 2008). Secondly, treatment priorities, goals and approaches are likely to be inconsistent between different providers (Conrod & Stewart, 2005). It is possible that regular communication between clinicians may reduce inconsistencies in this treatment approach; however, added pressure to already increasing staff workloads makes regular communication difficult (Belling et al., 2011). Lastly, patients with comorbidity often report that a breakdown in referrals to different services prevents the timely treatment of both disorders simultaneously (Staiger et al., 2011).

1.5.3.3 Integrated models of care

In light of these challenges, researchers now point to *integrated* approaches to the treatment of comorbidity. *Integrated* treatment refers to the concurrent treatment of both the SUD and mental disorder by the same clinician and service, where treatment explicitly targets the relationship between disorders and is tailored to the patients' needs and motivation (Murthy & Chand, 2012; NDARC, 2010; Stewart & Conrod, 2008). *Integrated* treatment approaches offer benefits in that both symptoms are addressed, treatment objectives are consistent and CoC is enhanced (Kavanagh, 2008). In general, most *integrative* treatments for comorbidity

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include a mixture of cognitive behavioural therapy (CBT), supportive therapy and motivational enhancement therapy (Kranzler & Rosenthal, 2003). Three prospective cohort studies, a quasi-experimental and a cross-sectional study linked integrated treatments to improved patient satisfaction for patients with comorbidity, when compared to standard care (Anderson, 1999; Clark et al., 2008; Daughters et al., 2008; Morse, Calsyn, Klinkenberg, Cunningham, & Lemming, 2008; Morse et al., 2006). Similarly, Conrod & Stewart (2005) reported that programs which have a comorbidity focus have a positive impact on treatment completion for patients with comorbidity.

Whilst *integrated* treatments are viewed as the optimal approach for the treatment of comorbidity, few studies have examined its effectiveness, and those that have, report variable results. In a randomised-controlled trial, (RCT) Brown et al., (1997) reported that patients with comorbidity who participated in an integrated addiction and coping skills for depression program ($n=19$) reported improved depression and anxiety symptoms, from pre to post treatment when compared to a relaxation training control group ($n=16$). However, no differences in outcomes between groups were observed at one, three and six month follow-ups (Brown et al., 1997). Similarly, the intervention group reported a greater percentage of days abstinent at three months when compared to the control group; however, no differences were observed on three other drinking outcome measures (Brown et al., 1997). Najavits et al., (1998) conducted a prospective cohort study ($n=17$) which found that patients with comorbidity who participated in an integrated CBT program for SUDs and post traumatic stress disorder (PTSD) showed improvements in psychiatric symptomatology, substance-related attitudes and psychosocial functioning, but no improvements in PTSD symptoms were observed. In addition, Thevos et al., (2000; 2001) found that integrated treatment programs for AUDs and social anxiety disorders improved post-treatment drinking outcomes for patients with comorbidity; however, the majority of patients in the sample relapsed to

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alcohol within one year. The findings produced from studies examining the effectiveness of *integrated* approaches are limited by their small sample size, as a result of high rates of patient treatment dropout (Brown et al., 1997; Najavits et al., 1998; Thevos et al., 2000;2001). High rates of treatment dropout are indicative of the high demands of *integrated* treatment approaches. Future studies in this area should look to address the patient burden associated with integrated approaches, and might look to examine the effectiveness of brief *integrated* treatment programs.

Although some literature endorses the superiority of *integrated* approaches to the treatment of comorbidity, given the inconsistent outcome data to date, future clinical trials are needed in order to determine the efficacy of this approach (Stewart & Conrod, 2008). In particular, the studies conducted to date are limited by small sample sizes and large variation in the assessment of outcome variables across studies. In addition to this unconvincing evidence, Stewart & Conrod (2008) proposed several practical challenges facing the delivery of integrated treatment, including: segregation between mental health and addiction treatment services, lack of clinicians trained in the treatment of both disorders and few empirically validated treatments for specific co-occurring diagnoses types (Belling et al., 2011; Stewart & Conrod, 2008). Researchers have also identified that patients with comorbidity often have different levels of motivation to change each disorder, and will commonly seek treatment for one disorder rather than both (Mullaney & Trippett, 1979; Stewart & Conrod, 2008). This creates a further barrier to providing integrated treatment for both disorders.

1.5.4 Approaches to the treatment of comorbidity

Both pharmacological and psychotherapeutic interventions have shown to improve outcomes for patients with comorbidity. Some researchers argue that treatments deemed effective for the single disorder are likely to benefit patients with comorbidity (NDARC, 2010). However,

other researchers have argued that outcomes for each disorder are likely to be independent (Schade et al., 2005). In all circumstances, the efficacy of treatment interventions depends on the type of co-occurring diagnoses (Gordon et al., 2008; NDARC, 2010) and current treatment guidelines advocate for an individualised treatment approach, matching patient needs and motivation (Kavanagh, 2003; Murthy & Chand, 2012). A number of individual studies have been published on the effectiveness of both pharmacological and psychotherapeutic approaches to the treatment of comorbidity, including RCTs and prospective cohort studies. However, there exist no meta-analyses that have combined the findings of pre-existing studies. Rather, findings have been collated by the guidelines for primary care clinicians formulated by National Drug Strategy (Gordon et al., 2008). These guidelines provide a narrative synthesis of the literature examining the effectiveness of various interventions for comorbidity, and assess the quality of evidence by applying the level of evidence hierarchy.

1.5.4.1 Approaches to the treatment of comorbid alcohol use disorders and depressive disorders

Research on pharmacological approaches to the treatment of comorbid AUDs and depressive disorders recommend the use of antidepressant medication. In particular, results from RCTs indicate both tri-cyclic and selective serotonin reuptake inhibitors (SSRIs) antidepressants improve depressive symptoms for patients with comorbidity, in comparison to placebo (Cornelius, Salloum Ihsan, Ehler, & Jarrett, 1997; Mason, Kocsis, Ritvo, & Cutler, 1996; Schmitz et al., 2001). More specifically, SSRIs fluoxetine and sertraline have been found to improve both depression and alcohol outcomes for patients with comorbidity (Gordon, 2008; Roy, 1998; Yoon et al., 2006). A meta-analysis of 30 studies found that the anti-craving medications acamprosate and naltrexone were moderately effective in reducing alcohol

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consumption for patients in treatment for AUDs (Kranzler et al., 2001). Similarly, this study reported that SSRIs were effective in reducing symptoms of depressions amongst patients with major depressive disorder in AUD treatment (Kranzler et al., 2001). Accordingly, treatment guidelines now recommend considering combining anti-craving medications such as acamprosate and naltrexone with antidepressants in the treatment of comorbidity. Recent data from a well-designed double blind placebo-controlled trial ($n=170$) found combined naltrexone and sertraline resulted in significantly better abstinence outcomes (53.7%) over 14 weeks of treatment for patients with comorbidity, in comparison to single medication and placebo groups combined (23.8%) (Pettinati et al., 2010). However, this study utilised a relatively short follow-up period, and it was not reported whether patients' abstinence remained stable over time. This is a particularly significant limitation as approximately 40-60% of patients with a SUD are reported to relapse within 3-months post treatment discharge, and 70-80% within the first year (Lowman, Allen, & Stout, 1996).

CBT is considered an effective psychotherapeutic approach to the treatment of comorbid AUDs and depressive disorders. The addition of CBT to standard hospital care for an AUD was found to reduce alcohol intake among patients with comorbidity ($n=35$), when compared to the addition of relaxation training in a retrospective analysis of hospital data (Ramsey, Brown, Stuart, Burgess, & Miller, 2002). Similarly, the addition of CBT and motivational interviewing to standard care, compared to standard care alone, was found to reduce cannabis use, depression symptoms and improve motivation to change in a prospective cohort study of young patients ($n=88$) with comorbid SUDs and depression; however, no changes to alcohol consumption were reported (Hides, Elkins, Scaffidi, Cotton, & Carroll, 2011).

1.5.4.2 Approaches to the treatment of comorbid alcohol use disorders and anxiety disorders

Pharmacological approaches to the treatment of comorbid AUDs and anxiety disorders recommend the short-term use of benzodiazepines, to reduce the risk of seizures and anxiety symptoms during alcohol withdrawal syndrome (Gordon, 2008; Murthy & Chand, 2012; Smith & Book, 2008). However, benzodiazepine use is associated with a risk of abuse and dependence, which is particularly important to consider amongst patients with SUDs (Posternak & Mueller, 2001). Buspirone is an anti-anxiety medication which is not related to benzodiazepines and therefore contains fewer risks for abuse and dependence (Robinson et al., 1992). The use of buspirone compared to placebo has been found to improve patient retention in treatment, reduce anxiety symptoms and delay relapse to alcohol among AUD patients with severe anxiety symptoms (Kranzler et al., 1994). There is evidence for the efficacy of SSRIs in the treatment of comorbid AUDs and anxiety disorders; however, benefits often depend on the type of anxiety disorder. Two RCTs ($n=46$ and $n=15$) found paroxetine reduced symptoms of social anxiety disorder and patients' need to drink alcohol in social situations when compared to the placebo group; however, no improvements to overall alcohol consumption were reported (Book, Thomas, Randall, & Randall, 2008; Randall et al., 2001). Similarly, both an RCT ($n=94$) and prospective cohort study ($n=9$) found the use of sertraline was beneficial for those with low severity alcohol dependence and PTSD, compared to placebo (Ballenger et al., 2000; Brady et al., 2005; Brady, Sonne, & Roberts, 1995). Anti-craving medications such as acamprosate and naltrexone have also shown effectiveness in reducing alcohol intake for patients with comorbid anxiety disorders in an RCT study of 315 patients (Gordon, 2008; Kranzler, Wesson, & Billot, 2004).

In 2011, Hobbs, Kushner, Lee, Reardon & Maurer (2011) conducted a meta-analysis of 15 studies that assessed the effectiveness of supplementary psychiatric interventions in the

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treatment of comorbid AUDs and anxiety. This study found that both independent CBT and medication were effective in improving depressive and anxiety symptoms for patients with comorbidity; however, CBT yielded a greater effect size ($d = .66$) compared to medication ($d = .24$) (Hobbs et al., 2011). For this reason, CBT is recognised as the first line psychotherapeutic treatment for comorbid AUDs and anxiety disorders (Kranzler & Rosenthal, 2003; Murthy & Chand, 2012); and it is recommended that in most cases, CBT should be trialled before use of pharmacotherapy (Gordon, 2008). An RCT of 96 patients found CBT effectively reduced anxiety and improved alcohol outcomes for patients with comorbid alcohol dependence and phobias, in comparison to a relapse prevention program (Schade et al., 2005). Similarly, Thevos et al., (2000) reported CBT delayed the onset of relapse in a stratified sample of 397 female patients with comorbid alcohol dependence and phobias, compared to twelve-step facilitation therapy and motivational enhancement therapy.

Whilst in more recent times we have witnessed an increase in clinical trials examining the effectiveness of treatments for comorbidity, evidence based information to guide clinicians remains sparse; particularly as comorbidity is often an exclusion criterion for clinical trials (Kay-Lambkin et al., 2004). The comorbidity of SUDs and mental disorders is considered a chronic relapsing condition, and despite research efforts, currently no gold standard treatment approach exists (Drake, Wallach, & McGovern, 2014; Kavanagh, 2003). Therefore, future research is needed to identify effective treatments for comorbidity, particularly with the aim of improving patients' course in treatment and outcomes after treatment.

1.5.5 The importance of quality indicators in treatment

1.5.5.1 The impact of comorbidity on the Australian healthcare system

As previously mentioned, comorbidity is associated with high healthcare burden and costs in Australia. In 2010, depression ranked in the top five diseases associated with the highest level of burden and disability (AIHW, 2014). In 2008-09 mental disorders ranked as one of the most costly disease groups to the Australian healthcare system, costing \$6.38 billion and accounting for 8.6% of the total healthcare expenditure (AIHW, 2014). As a result, the Australian government has since recognised the burden of chronic diseases, such as comorbidity, on the capacity of the existing healthcare system (AIHW, 2012), and has subsequently prioritised this issue as a key healthcare objective.

Recent studies state that the complex needs of patients with comorbid conditions are not fully met or addressed by the existing “fragmented and siloed” healthcare system in Australia (Kuipers et al., 2013, pg. 6). Furthermore, researchers propose a number of barriers to achieving quality in the treatment of comorbidity, within existing *parallel* care models. These include inherent difficulties in treating two disorders rather than one, attitudinal segregation within the system and financial constraints (Watkins, Burnam, Kung & Paddock, 2001). Accordingly, it is commonly suggested in the literature that existing disease-specific treatments and *parallel* models of care do not adequately meet the complex needs of patients with comorbidity in treatment (Boden & Moos, 2009a; Herrell, Fenton, Mosher, Hedlund, & Lee, 1996), and there remains little information on whether patients with comorbidity are in fact receiving quality care at standard existing services in Australia.

1.5.5.2 Applying indicators of quality to the treatment of comorbidity

Employing indicators of treatment quality are a useful method for assessing, monitoring and improving the performance of healthcare services (AIHW, 2014). The National Health Performance Framework in Australia considers healthcare quality to consist of a broad range of indicators, including: safety, responsiveness, efficacy and sustainability, effectiveness, CoC and accessibility (AIHW, 2009). Quality indicators such as these have been successfully applied in a number of treatment contexts in Australia; however, little work has been done on assessing treatment quality indicators in the context of chronic and comorbid conditions (Pillay, Dennis & Harris, 2014). Accordingly, researchers have pushed for advances in the application of quality indicators in the treatment of comorbidity, as a means to improve the care of these patients and alleviate burden on the healthcare system.

1.5.5.3 The National Comorbidity Initiative

In 2003-04, the Australian Government allocated funding to improve the coordination of treatment for comorbidity and patient treatment outcomes, through the *National Comorbidity Initiative* (York & Psychogios, 2005). One of the key questions of this initiative was: “*What do we know about the appropriateness of services received by people with comorbidity?*” Within this question, the initiative set out to better understand several indicators of treatment quality, including CoC across service types and the appropriateness of care received by patients, in regards to meeting patient need and satisfaction with services (AIHW, 2005).

By 2005, the *National Comorbidity Initiative* released a report stating that there existed minimal research on existing service delivery in Australia (AIHW, 2005). This report also stated that existing quantitative national data sources were unable to adequately address questions concerning the quality and appropriateness of services currently available to patients with comorbidity (AIHW, 2005). Similarly, a 2007 report concluded that despite

increases to funding and resources to minimise the gaps between addiction and mental health services, patients with comorbidity remained poorly serviced in Australia (Holt et al., 2007).

1.5.5.4 The need for the patient perspective of quality in the treatment of comorbidity

The 2005 *National Comorbidity Initiative* report thus concluded there was need for increased knowledge on patients' experiences of existing standard treatments, to adequately address questions regarding the quality of treatment for comorbidity (AIHW, 2015). Traditionally, the patient perspective of treatment has received minimal consideration in the evaluation of healthcare quality, due to widespread assumptions that their perspectives contain sources of bias and lack validity (Langle et al., 2003; Ruggeri, 1994). In recent times however, patients have been recognised as being more active participants in the organisation, planning and evaluation of healthcare services (Sitzia & Wood, 1997); offering useful insights into the process and outcomes of treatment (Revicki, 2004). In fact, previous authors argue that the patients' perspective of care is more critical when attempting to determine positive patient outcomes after treatment, when compared to staff, service and organisational perspectives (Oates, Weston, & Jordan, 2000; Uijen, Schers, Schellevis, & Van Den Bosch, 2012). Yet despite this new emphasis on patients' perspectives, it is somewhat neglected in both the drug and alcohol and mental disorder research fields, perhaps due to added issues relating to the patient group such as: cognitive impairment as a result of substance use, recall bias, variable motivation to change and limited insight of disorder impact (Blume, Davis, & Schmaling, 1999; NDARC, 2010).

Based on the current state of the literature, this thesis chose to focus on the treatment quality indicators: CoC, treatment need and patient satisfaction with treatment, with a specific focus on assessing the patients' perception of treatment quality. Whilst there exist other indicators of healthcare quality, such as The National Health Performance Framework

in Australia (AIHW, 2009), this thesis chose to examine CoC, treatment need and patient satisfaction with treatment based on the recommendations provided by the National Comorbidity Initiative. A detailed theoretical and research review of the patient reported outcomes: CoC, treatment need and patient satisfaction in the context of treatment for comorbidity is therefore presented herein.

1.6 Theoretical and conceptual frameworks

1.6.1 Theoretical predictors associated with patient satisfaction with treatment

Theoretical and conceptual frameworks provide an understanding of the role of quality indicators in the context of healthcare delivery. This section outlines some of the original theoretical and conceptual frameworks linking indicators of treatment quality in general healthcare. Patient satisfaction with treatment is described by several models of healthcare delivery, and is examined as both a measure of treatment process and outcome (Linder-Pelz, 1982). In 1997, authors Sitzia and Wood conducted a review of several theoretical models that considered patient satisfaction an outcome variable of healthcare delivery. Conceptual frameworks assessed in this review included models by Ware et al., (1983), Linder-Pelz (1982), Fitzpatrick (1984) and Fox & Storm (1981). Sitzia and Wood (1997) concluded that patient satisfaction is influenced by patient characteristics (*determinants*) and the care received (*components*) (Sitzia & Wood, 1997). Determinants of patient satisfaction across models include: patient expectations of treatment, patient demographic characteristics (i.e. age, gender, education level, socio-economic status and ethnicity) and patient psychosocial determinants (i.e. social desirability). Ware et al., (1983) proposed components of care related to patient satisfaction in a broad healthcare application theoretical model, including: interpersonal manner, technical quality of care, accessibility, finances, efficacy/outcomes of

care, CoC, physical environments and availability (Ware et al., 1983). Figure 2 illustrates the patient determinants and components of care associated with patient satisfaction with treatment in the general healthcare literature, as outlined in the review by Sitzia & Wood (1997) and Ware et al., (1983).

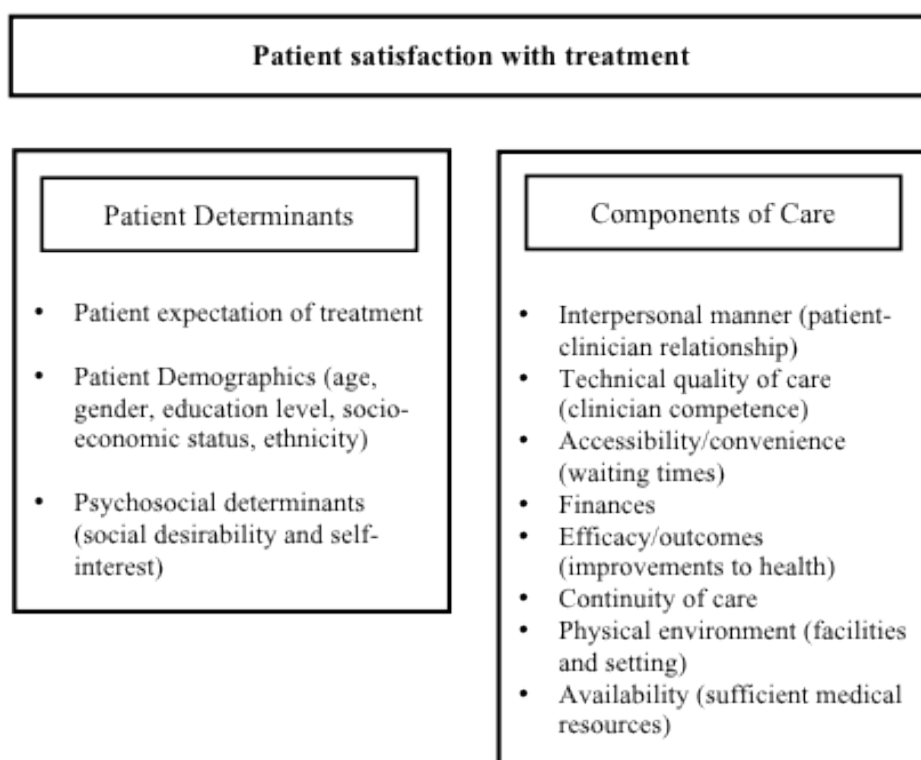


Figure 2. Patient determinants and components of care associated with patient satisfaction with treatment, adapted from Sitzia & Wood (1997) and Ware et al., (1983).

Theoretical and conceptual frameworks for delivering quality healthcare differ depending on the specific treatment group and healthcare context under investigation (Sitzia & Wood, 1997). To demonstrate, indicators such as patient satisfaction are considered more critical in the treatment of chronic conditions (i.e. comorbidity), due to its close association to treatment retention and outcomes. Conversely, patient satisfaction is considered less important in the quality of treatment for acute conditions, as there less need for ongoing

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retention in treatment. There remain a limited number of theoretical frameworks which attempt to describe the role of quality indicators in the treatment of chronic conditions. One of the few models which exist is The Middle Range Theory of Health Care Delivery, which was developed based on patients with chronic hypertension (Shortell, Richardson, LoGerfo, Diehr, & Weaver, 1977). This model considers outcome variables of healthcare delivery to include both the quality of treatment outcome and patient satisfaction. Other variables explained by the model include structural variables such as characteristics of the patient (e.g. age, sex, family size) and provider (e.g. speciality, number of years in practice). Similarly, process variables included access to care, utilisation of services and CoC. Authors proposed that variables included in the model directly or indirectly affect one another. For example, CoC is implicitly influenced by the experience of service utilisation and directly affected by patient and provider characteristics. Similarly, provider characteristics, CoC, access to care and the quality of the treatment process and outcome are considered to affect patient satisfaction.

1.6.2 Theoretical outcomes associated with patient satisfaction with treatment

To date, the vast majority of theoretical literature examining the delivery of healthcare focuses on patient satisfaction as an outcome variable; however, some previous studies have investigated the impact of patient satisfaction during treatment on clinical treatment outcomes (Kane, Maciejewski, & Finch, 1997). These studies suggest that rather than a direct causal relationship; patient satisfaction during treatment mediates the relationship between treatment engagement and positive clinical outcomes such as improved health status. For example,

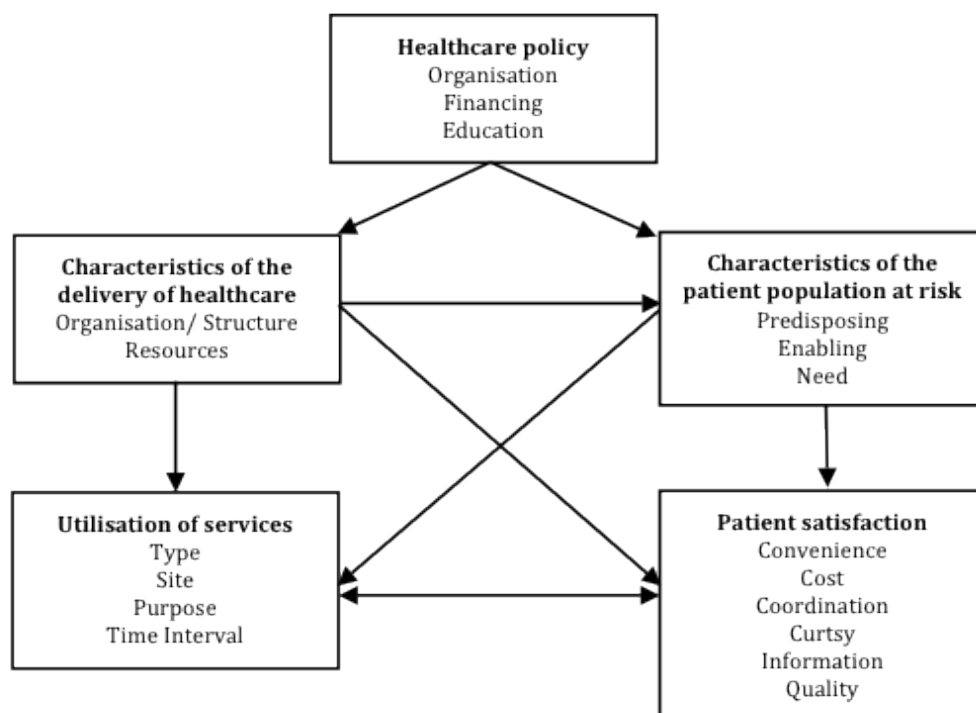


Figure 3. Andersen Behavioural Model of Health Service Use; Adapted from: Aday, L.A., & Andersen, R. (1974).

Dearing et al., (2005) proposes that patients who are satisfied during treatment are more likely to continue treatment, enabling treatment to have a greater effect. Similar theoretical associations are reported in a revised version of Andersen’s Behavioural Model of Health Service Use (Aday & Andersen, 1974; Andersen, 1995). This model describes that a person’s decision to seek healthcare is influenced by health policy, characteristics of the health delivery system, characteristics of the patient population (i.e. *predisposing factors*, patient demographics, position within the social structure and beliefs about the health care system; *enabling factors*- patient economic status and location of residence; and *need-based factors*- perception and need for health care), utilisation of services and patient satisfaction (Andersen, 1995). In addition, Andersen et al. (1995) proposed that patient satisfaction in

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treatment plays a continued role in patients' desire to continue treatment, for those who have already made contact (Figure 3). Although theoretical models suggest a link between healthcare quality and positive patient health outcomes, it is important to keep in mind that quality of care is only one determinant; and that patient health outcomes are also explained by patient characteristics (i.e. disease severity), environment (i.e. poverty/ lifestyle) and mere chance (Mant, 2001).

1.7 Indicators of treatment quality

1.7.1 Continuity of care (CoC)

CoC is frequently cited in the literature as an indicator of treatment process quality, particularly in the context of chronic conditions (Cabana & Jee, 2004). A number of studies have been conducted which have examined CoC in the treatment of *single* SUDs and mental disorders. Among these studies, evidence to support the association between CoC and improved patient outcomes is unconvincing (Joyce et al., 2010); with some studies reporting positive treatment prognosis (Krupski, Campbell, Joesch, Lucenko, & Roy-Byrne, 2009; Luchansky, He, Krupski, & Stark, 2000; Swindle, Phibbs, Paradise, Recine, & Moos, 1995) and health and social outcomes (Garnick et al., 2007; Zarkin, Dunlap, Bray, & Wechsberg, 2002); whilst other studies report little to no associations between CoC and improved outcomes for patients (Bindman et al., 2000; Magura et al., 2005; McKay, Alterman, McLellan, & Snider, 1994). Inconsistent findings in studies assessing CoC for patients with single diagnoses may be attributable to the wide and variable definitions of CoC applied across studies (Uijen, Heinst, et al., 2012; Uijen, Schers, et al., 2012; Van Walraven, Oake, Jennings, & Forster, 2010); and complexities in operationalising the construct (Adair et al., 2003; Adair et al., 2005). In addition, it has been noted that measures of CoC often focus on

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the quantity of care received and fail to assess quality of care offered (Haggerty et al., 2003b; Van Walraven et al., 2010).

CoC is believed to be particularly important in the treatment of comorbidity (NDARC, 2010). In current clinical practice, patients with comorbidity are offered *parallel* models of treatment (NDARC, 2010). Previous researchers indicate that parallel approaches to the treatment of comorbidity increase the possible avenues for patients to ‘fall beneath the cracks’ of the system, due to a lack of coordination between services for addiction and mental health (Kenny, Kidd, Tuena, Jarvis, & Roberston, 2007; Staiger et al., 2011; Teesson & Byrnes, 2001). Thus, patients with comorbidity are believed to be at risk of breakdowns in CoC (Askey, 2007), when compared to patients with single diagnoses who seek treatment from the one service. However, there exist a minimal number of studies that have investigated whether patients with comorbidity are subject to poorer CoC when compared to patients with single disorders. In particular, there is limited agreement of how we should define CoC and specifically how it should be applied in the treatment of comorbidity. Similarly, it is unknown whether better CoC actually improves outcomes for patients with comorbidity, as most of this work is restricted to single diagnoses samples. Additionally, there is minimal focus on the patients’ perception of CoC. A more detailed exploration of CoC in the treatment of comorbidity is undertaken in *study one* (chapter 3 of the thesis), which explicitly reveals and discusses these current gaps in the literature.

1.7.2 Treatment needs

Patient treatment ‘need’ is described as patients’ needs that have the capacity to be addressed by healthcare (Asadi-Lari et al., 2004). Need has been described as a conceptually complex and holistic construct, particularly as patient views and experiences of healthcare range on a broad spectrum (Wen & Gustafson, 2004). Assessment of patient treatment needs in

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healthcare commonly aims to identify and target the specific needs of the patient group in the treatment context. Previous studies suggest that a patient's 'need' may have a direct relationship with patient satisfaction and that an unmet need is often a large predictor of patient dissatisfaction (Asadi-Lari et al., 2004; Wen & Gustafson, 2004). However, empirical evidence to support this relationship is lacking, being mostly implied by theoretical and conceptual models of healthcare delivery.

Patients with comorbidity are described as presenting to treatment with a more diverse range of complex treatment needs, when compared to single diagnoses patients (Murthy & Chand, 2012). The National Drug and Alcohol Research Council (2010) propose a range of needs that patients with comorbidity are likely to possess in addition to their SUD and mental disorder needs; including: medical, family, social, housing, employment, welfare and legal needs. However, research has yet to explore how the treatment needs of patients with comorbidity differ to the needs of patients with single diagnoses. Identification of the specific needs unique to patients with comorbidity is likely to provide valuable information on how to provide best treatment practice for this patient group. Further details on the needs of patients in SUD treatment are discussed in *study two* (chapter 4 of the thesis), which aims to compare treatment needs amongst patients with and without mental conditions in AUD treatment.

1.7.3 Patient satisfaction with treatment

Patient satisfaction with treatment is considered an important indicator of treatment quality, and is believed to improve patient outcomes in the treatment of comorbidity. However, there exist a minimal number of studies illustrating the positive impact of patient satisfaction on patient outcomes in the treatment of comorbidity. To date, only one well-designed prospective study ($n=2,496$) found that higher patient satisfaction was associated with both

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reduced substance misuse and psychiatric problems at both one and five year follow-ups (Boden & Moos, 2009b). Rather, the majority of evidence stems from studies investigating patient satisfaction in single diagnoses cohorts. Previous studies conducted with patients with single diagnoses have found higher patient satisfaction is associated with improved substance treatment course including retention and completion (Hiller, Knight, & Simpson, 1999; Kaspro, Frisman, & Rosenheck, 1999; Rosenheck, Wilson, & Meterko, 1997). In particular, a well-designed prospective study ($n=841$) found that increased satisfaction with addiction treatment was associated with treatment retention at an 8-month follow-up and abstinence, lowered drug use, stabilised drug use and safer drug use (Morris & McKeganey, 2007).

Although theoretical models propose patient satisfaction is largely affected by a complex number of patient and service characteristics, studies conducted in the treatment of comorbidity provide less convincing evidence. In a 2011 systematic review of patient satisfaction in the treatment of comorbidity, Schulte et al., (2011) found no consistent link between gender, age, education, employment, marital status or ethnicity and patient satisfaction with treatment (Afuwape et al., 2006; Clark et al., 2008; Pollack, Stuebben, & Sobhan, 1997; Prince, 2005). Similarly, no association between the type of substance disorder or type of mental health disorder and patient satisfaction was found (Miles et al., 2014; Prince, 2005). Rather, predictors of patient satisfaction included: transportation assistance, assistance with daily activities, emotional problems, increased frequency of contact and the number of service contacts (Fletcher, Cunningham, Calsyn, Morse, & Klinkenberg, 2008; Magura, Villano, Rosenblum, Vogel, & Betzler, 2008; Prince, 2005; Ries, Jaffe, Comtois, & Kitchell, 1999). As the literature suggests, few variables have been shown to consistently influence patient satisfaction with the treatment of comorbidity; however, this is likely attributable to the fact that a number of variables have not yet been investigated. In particular, Schulte et al., (2011) argues that previous studies have yet to

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investigate the impact of a number of patient and service characteristics that have shown importance in single diagnoses samples, in the assessment of patient satisfaction with the treatment of comorbidity. Examples of patient characteristics yet to be explored include patient readiness to change their substance use, tendency to give a positive appraisal and patient locus of health control (Schulte et al., 2011). Similarly, the impact of service characteristics such as treatment setting has received little research attention (Schulte et al., 2011), despite its importance in the assessment of patient satisfaction with addiction services (Morris & McKeganey, 2007). The importance of the aforementioned patient and service characteristics in the assessment of patient satisfaction with the treatment of comorbidity are discussed in detail in chapter 2 and chapter 5 (*study three*).

There is a common belief in the literature that patients with comorbidity are less satisfied with standard treatment when compared to single diagnoses samples, due to unmet need (Schulte et al., 2011). However, only one study to date has reported significant differences in patient satisfaction between groups (Boden & Moos, 2009b), whilst two smaller scale studies found no significant differences (Burns et al., 2005; Herrell et al., 1996). Whilst there is some evidence to indicate patients with comorbidity are less satisfied with standard treatment when compared to single diagnoses, a number of gaps in the literature exist which limit the reliability of these findings. In particular, research comparing patient satisfaction with treatment among patients with and without comorbidity has yet to control for a number of potentially confounding variables, as detailed above. Further details on patient satisfaction in the treatment comorbidity and current gaps in the literature are provided in chapter 4 (*study two*) and chapter 5 (*study three*) of the thesis.

1.8 Summary and aims of the thesis

1.8.1 Summary

In summary, SUDs and mental disorders and/or conditions co-exist frequently in the general population (Hall et al., 1999; Slade, Johnston, et al., 2009), and represent a significant proportion of patients in treatment (Burns et al., 2005; Grant et al., 2004; Haver & Dahlgren, 1995). Comorbidity has been linked to poorer patient outcomes (Curran et al., 2002; DiClemente et al., 2008), poorer treatment course (Bruce et al., 2005; Greenfield et al., 1998) and high healthcare use and expenditure (Gulliford et al., 2006; Rush et al., 2010), when compared to patients with single disorders. The treatment of comorbidity remains a significant challenge for healthcare providers and services. Comorbidity can arise for a variety of reasons, and each patient presents to treatment with a complex presentation and unique set of needs (Kay-Lambkin et al., 2004; Murthy & Chand, 2012). Healthcare providers and services are required to carefully consider different models of care and treatment interventions to provide best practice (Gordon, 2008; NDARC, 2010); however, there exist minimal evidence-based recommendations for treatment (Kay-Lambkin et al., 2004). There is a widespread assumption that existing standard treatments do not adequately meet the complex needs of patients with comorbidity, and therefore results in inappropriate delivery of care and negative treatment outcomes (Boden & Moos, 2009a; Herrell et al., 1996; Watkins et al., 2001). More specifically, there is a notion in the literature that patients with comorbidity are subject to poorer CoC in treatment, have more severe treatment needs and are less satisfied with existing treatments for SUDs, when compared to patients with single disorders. However, there exists minimal assessment and application of quality indicators in the context of treatment for comorbidity. More specifically, there appears to be few pre-existing studies that have directly compared treatment quality among single diagnoses and comorbid diagnoses patient groups, as a means to identify how treatment

might be improved to better address the needs and desires of patients with comorbidity.

Furthermore, review of the recent literature indicates limited understanding of the actual lived experiences of patients receiving treatment at existing services.

1.8.2 Aims of the thesis

To address the gaps identified in the literature to date, the overall aim of this thesis was *to examine three quality indicators for treatment of substance use disorders and comorbidity: continuity of care, treatment need and patient satisfaction*. The objective of this thesis was to compare the quality of treatment received by patients with and without comorbidity, with the purpose of uncovering specific differences in the care received by patients with comorbidity at existing services. It was predicted that this research would expose substantial deficits in the quality of treatment received by patients with comorbidity, when compared to patients with single SUDs. Figure 4 illustrates the aims of the thesis and contributing studies.

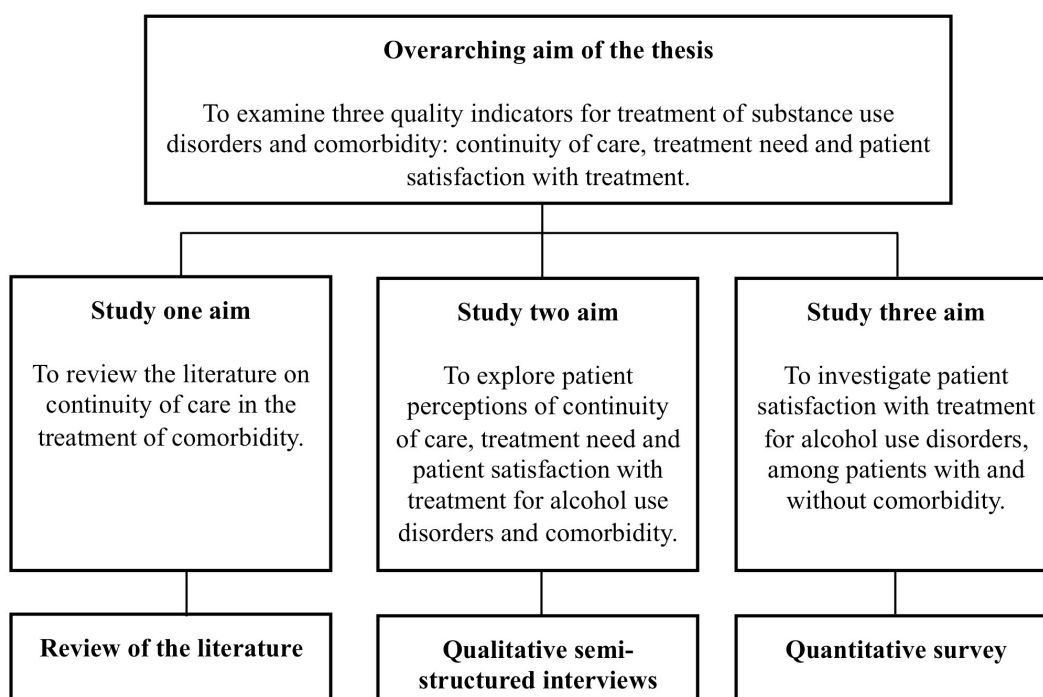


Figure 4. Overarching aim of the thesis and aims of the contributing studies

To address the thesis aim, the following individual study aims and objectives were developed:

Study One

Aim: To review the available literature on continuity of care (CoC) in the treatment of comorbidity.

1. To explore how CoC has been defined by the literature to date, to reveal which aspects of continuity are central to the treatment of comorbidity.
2. To investigate how CoC has been applied and measured by contributing studies, to identify information for its implementation and assessment in treatment.
3. To detect areas of consistency in the measurement of CoC to a) determine whether there is evidence that CoC is important in the treatment of comorbidity and b) determine if patients with comorbidity receive poorer CoC when compared to patients with single disorders.
4. To provide practical recommendations for the understanding, measurement and application of CoC in the treatment of comorbidity.

Study Two

Aim: To explore patient perceptions of continuity of care (CoC), treatment need and patient satisfaction with treatment for alcohol use disorders (AUD) and comorbidity.

1. To explore patient perceptions of CoC, treatment need and patient satisfaction in the treatment of AUDs.
2. To compare patient perceptions of CoC, treatment need and patient satisfaction in AUD treatment, amongst those with and without comorbid mental conditions.

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3. To identify the unique treatment needs and desires of patients with comorbid conditions in treatment.
4. To provide useful recommendations for how existing treatments might be improved to meet the needs of patients with comorbid conditions.

Study Three

Aim: To investigate patient satisfaction with treatment for alcohol use disorders (AUD), among patients with and without comorbidity.

1. To determine if patients with mental conditions are less satisfied with standard AUD treatment, when compared to patients with single disorders.
2. To control for the potential impact of treatment setting, treatment readiness, locus of health control and life satisfaction, when comparing patient satisfaction with treatment among patients with and without comorbid conditions.
3. To determine whether patients with mental conditions are less satisfied with certain aspects of AUD treatment when compared to patients with single disorder.
4. To uncover how existing AUD treatment might be improved from the patient perspective.

The next chapter of the thesis is an exegesis which provides a detailed explanation of the development and methodological approach for each of the three contributing studies.

CHAPTER TWO. EXEGESIS

2.1 Preamble

This chapter provides a critical explanation and rationale of the decisions made throughout the research process. The exegesis also provides complementary contextual and methodological information not covered elsewhere in each of the research studies.

2.2 Context of and rationale for the subject of the research

2.2.1 The impact of stigma on comorbidity research and treatment

The co-occurrence of substance use disorders (SUDs) and mental disorders is common in treatment, yet this area remains largely under-researched (Schomerus, Lucht, et al., 2011). This is attributable to a number of pragmatic and methodological challenges experienced in both the addiction and mental disorder research fields, coupled with the complexity of the patient group (Kay-Lambkin, Baker, & Lewin, 2004). Persons with either SUDs and/or mental illness are faced with the stigma and shame associated with their disorders (Evans & Sullivan, 2001; Schomerus, Corrigan, et al., 2011). More specifically, these illnesses are subject to stereotypes of unpredictability, dangerousness and societal rejection; and as a result, people with comorbidity receive little empathy, understanding or help from the wider community (Angermeyer, Matschinger, & Siara, 1992; Schomerus, Lucht, et al., 2011). Similarly, a recent review of the literature (Van Boekel, Brouwers, Van Weeghel, & Garretsen, 2013) identified that general healthcare staff hold many negative perceptions and attitudes towards working with patients with SUDs. More specifically, a qualitative study found that general healthcare staff prefer that patients with SUDs be treated solely by addiction specialists, as most professionals indicated they felt unable and unwilling to

empathise with patients suffering from addiction, particularly illicit drug users (McLaughlin et al., 2006). Schomerus, Lucht et al., (2011) also found that patients with SUDs felt the effects of structural discrimination and stigma when seeking treatment, particularly in the lack of treatment services available (Hanson, 1998) and community attitudes that illness such as AUDs and depression should be allocated less healthcare funds and resources (Beck et al., 2003).

Stigma has been found to reduce patients' willingness to seek treatment (Schomerus, Lucht, et al., 2011). In the addiction treatment context, only 28% of those with an SUD will seek treatment in a given year, and those that do report difficulties in navigating the treatment system (Kay-Lambkin et al., 2004; Teesson, Hall, Lynskey, & Degenhardt, 2000). Similarly, research indicates that patients undergo acute distress when entering treatment (Penick, Powell, Liskow, Jackson, & Nickel, 1988), often leading to patient dropout. The proportion of patients who drop out of treatment ranges from 36% and 44% across addiction services (SAMHSA, 2008).

2.2.2 Challenges associated with patient engagement in comorbidity research and treatment

Patients with comorbidity are often described as 'hidden' groups and are considered particularly difficult to engage in research (Corsi, Van Hunnik, Kwiatkowski, & Booth, 2006). Patient recruitment is recognised as a major difficulty in the field of drug and alcohol research (Thomson, Morley, Teesson, Sannibale, & Haber, 2008). Thomson et al., (2008) state that patients with addictions often believe involvement in research may lead to negative treatment outcomes and therefore many refrain from participation. Similarly, patients with comorbidity are difficult to track over time. The attrition rates in drug and alcohol research studies are considerably high; ranging from 10 to 50% in longitudinal research (Walton,

Ramanathan, & Reischl, 1998). Previous studies have highlighted the usefulness of offering financial incentives to improve patient recruitment and retention rates (Walton et al., 1998); however, this raises ethical considerations. In particular, it is recognised that substance users may also be financially disadvantaged and are vulnerable to participating in research for financial gain (Dickert & Grady, 1999).

2.2.3 Rationale for the current research

The broad rationale of this thesis stemmed from prior research undertaken in the author's Bachelor of Psychology (Honours) degree (Fielder et al., 2015; McCallum, Mikocka-Walus, Andrews, Churches, & Keage, 2011; McCallum, Mikocka-Walus, Keage, Churches, & Andrews, 2013). Findings produced from this research highlighted considerable issues in the delivery of existing treatments for comorbidity; and recognised the need for continued research aiming to improve the available treatments, to better equip patients for recovery. Throughout prior research, the author had obtained good working relationships with existing addiction treatment services in Adelaide, South Australia. Similarly, the author developed important relational skills from working with this patient group and acquired an interest in giving voice to patients in treatment.

2.3 Choice of methodology: Rationale for mixed-methods approach

Increasingly, evaluations of treatment delivery have adopted mixed-method designs to capture useful insights and information that independent qualitative and quantitative studies often miss (O'Cathain, Murphy, & Nicholl, 2007; Teddlie & Tashakkori, 2009). The benefits of mixed-method designs include improved comprehensiveness of data to address overarching research questions and increased interpretability and validity of independent findings (O'Cathain et al., 2007; Tashakkori & Teddlie, 1998). O'Cathain et al., (2007)

describes that mixed-methods designs encourage complimentary techniques, where different data sources offer complementary information on the one issue, and can be combined to examine different aspects of a research question. Similarly, mixed-method designs also allow for contextualisation of a problem, by seeking more than one perspective to enrich the meaning of findings (Creswell, Klassen, Clark, & Smith, 2010).

The design of the mixed-methods research was based on a pragmatist philosophical approach, where studies aimed to “solving practical problems in the ‘real world’” (Feilzer, 2010, pp.8).

The overarching objective of the thesis was to compare the quality of treatment received by patients with and without comorbidity. It was anticipated that the cross-sectional comparative design would allow for the unique treatment needs and desires of patients with comorbidity to surface. Three different studies were developed to address this overarching research objective, and each was performed with different research methodologies (review of the literature, qualitative semi-structured interviews and quantitative surveys). Thus, the present thesis was informed by a concurrent mixed-methods research approach (Ivankova, Creswell, & Stick, 2006). This meant that various sources of data were collected, analysed and interpreted separately, but occurred at the same time. The qualitative and quantitative data were integrated at the interpretation level of the thesis in order to address the overarching thesis aims and outcomes. Figure 5 illustrates the schematics of the mixed-methods approach to the thesis and where integration of data occurred. Considering the number of challenges associated with conducting research in this field, particularly difficulties with recruitment, access to patients and retention in research; it was considered more appropriate to capture and compare patient experiences of treatment at one point in time, but with patients being at different times in their treatment. This approach meant patients’ burden was kept to a minimum, ethical standards were upheld and the risks associated with recruitment and attrition was reduced.

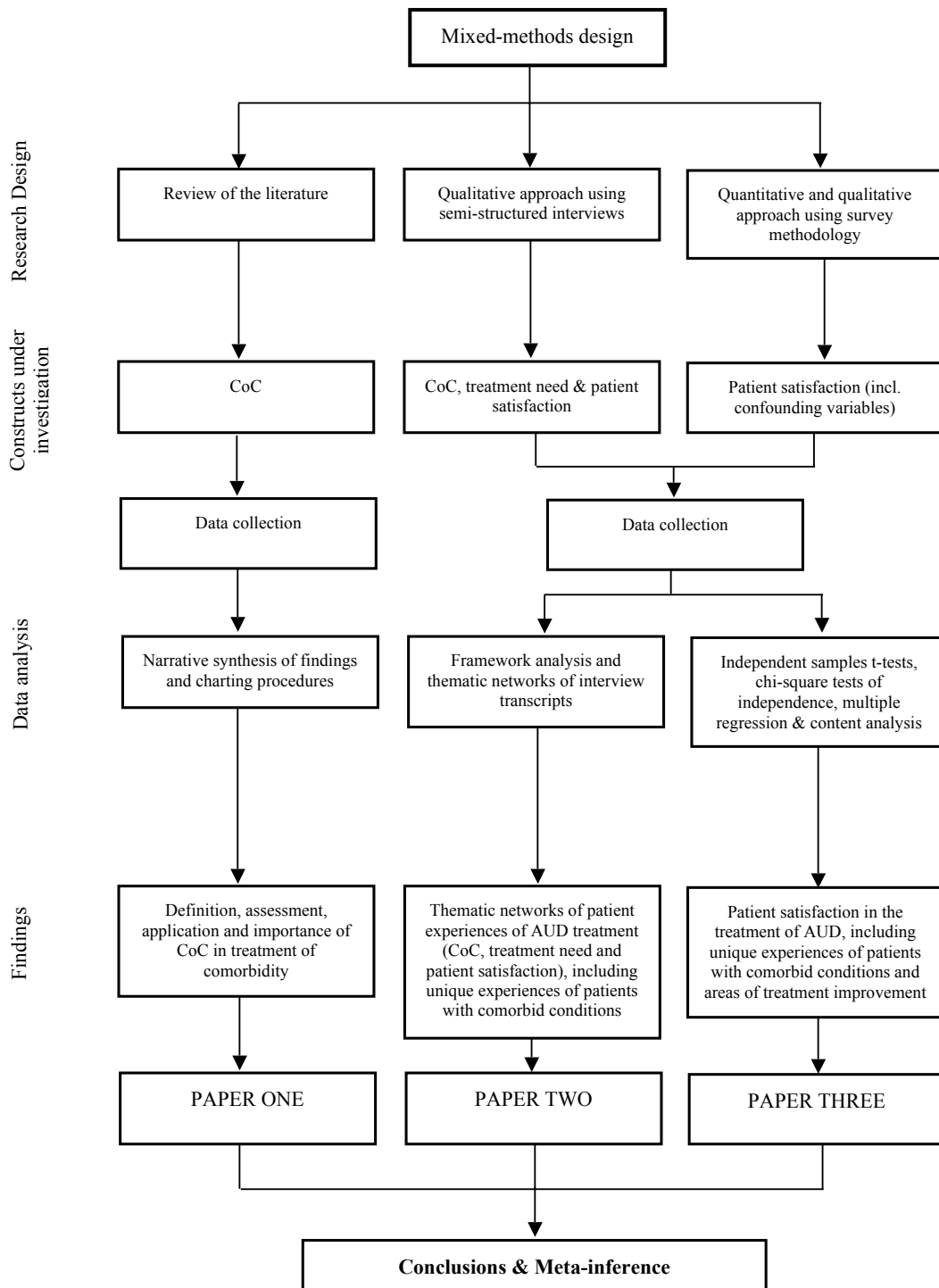


Figure 5. Schematics of the mixed method approach to the present thesis

2.4 Traditional literature review

At the outset, *study one* intended to include a systematic review of the literature. The aim was to determine if continuity of care (CoC) is associated with positive patient outcomes in the treatment of comorbidity, and to identify any studies that had compared CoC among comorbid and non-comorbid patient groups. Accordingly, a systematic search of the literature was conducted according to systematic review guidelines (Meline, 2006; NHMRC, 1999, 2000; Petticrew & Roberts, 2006). Supplementary materials used in the systematic search procedure are located in Appendices 8.1 to 8.5. Initial examination of the extracted data revealed that the definition and assessment of CoC were inconsistent, and large discrepancies in methodological design across studies were observed. In this situation, systematic review guidelines advise against the synthesis of heterogeneous data, particularly when concerning construct measurement quality due to significant risks of bias in results (NHMRC, 1999). Therefore, a *traditional literature review* approach was subsequently decided to be more appropriate. Jesson et al., (2011) defines a traditional literature reviews as a critical approach to examining the methods and results of preliminary studies, to make meaningful interpretations of the research question. Traditional reviews are conducted in a systematic manner, when it is not possible synthesise the data (Jesson, Matheson, & Lacey, 2011). Accordingly, *study one* was revised to adopt a traditional literature review method using a narrative synthesis of data, whilst maintaining several systematic review features. These included: a systematic search of the literature, use of inclusion and exclusion criteria and formal appraisal of study quality. Supplementary information not covered in *study one* is now presented.

Due to the inconsistencies found in the application of CoC across studies, the objectives of *study one* were therefore revised to include an investigation of how CoC had been defined and measured in the literature. To examine CoC definitions and measures,

‘charting’ methods to analysis were conducted, as proposed by Arksey & O’Malley (2005) and Ritchie & Spencer (2002). Firstly, qualitative definitions of CoC were grouped as either multidimensional or singular definitions. Table 1 located in Appendix 8.6 illustrates the differences between singular and multidimensional definitions of CoC. Secondly, the multidimensional definitions of CoC, were analysed using methods of charting (Ritchie & Spencer, 2002), to extract information on the core aspects of CoC relevant to this patient group. Definitions and information on measurement were examined according to shared themes, key issues and core principles (Ritchie & Spencer, 2002). Table 2 located in Appendix 8.6 illustrates an example of how core components of CoC emerged. Extracted data were then used to inform how core components of CoC might be applied in different levels of care in the treatment of comorbidity.

Following consolidation of the definition, measurement and application of CoC, it was then possible to identify consistency across studies and synthesise the appropriate data. Accordingly, the second objective of *study one* was to determine predictors and outcomes associated with CoC in treatment, where there was sufficient consistency to do so.

2.5 Fieldwork research

Study two and *study three* were conducted concurrently during the *fieldwork* phase.

Applications for approvals included both studies, which utilised the same research setting, recruitment timeframe and patient screening procedures.

2.5.1 Ethical and research approvals

Planning for fieldwork began in October 2012 and all research and ethical clearances were obtained by August 2013. Ethical approval for low-risk risk studies was obtained from the Royal Adelaide Hospital HREC and The University of Adelaide HREC (Appendix 8.7 to

8.8). Drug and Alcohol Services South Australia and the Central Adelaide Local Health Network Research Governance Office also assessed the research for suitability (Appendix 8.9 to 8.10). Participants were provided with the study information sheet, informing patients of the nature of the study, voluntary participation and the right to withdraw. Breaches to confidentiality only occurred if a patient reported extremely severe depression or anxiety symptoms in the quantitative study, or if a patient discussed thoughts or plans of self-harm. In these instances, the clinician responsible for the patients' care was notified to assist with further treatment interventions. Patients were aware of potential breaches of confidentiality. Participants were required to sign a written consent form, and were provided with contact details for various organisations in Adelaide if they required further assistance with issues discussed during the study. Materials provided to patients during recruitment are located in Appendices 8.11 to 8.13.

2.5.2 The research setting

In Australia, all drug and alcohol treatment services are regulated by the *National Drug Strategy*. This strategy encourages a harm-minimisation philosophy and its strategic aims include: harm reduction, supply reduction and demand reduction (MCDS, 2011).

Approximately half of the services available in Australia are government funded and remaining services are organised by non-government agencies (AIHW, 2009). Participants included in the current research were recruited from four treatment services located in Adelaide, South Australia. Treatment services were selected from the one publicly funded body, Drug and Alcohol Services South Australia (DASSA), which adopts a harm minimisation philosophy (SA Health, 2014). Whilst each service was governed by the one publically funded body (DASSA services), alcohol withdrawal syndrome was managed by hospital staff at the Royal Adelaide Hospital at the *inpatient hospitalisation* service. This is a

dissimilar service to the DASSA provided at the other settings. The decision to select services from the one governing body was to minimise the impact of variation in treatment ideology and financial bureaucracies, which have the potential to impact treatment priorities and goals (Weisner & Room, 1984). The first treatment service was a tertiary inpatient hospital. At this service, patients receive medical treatment for injuries or diseases, some of which may be related to the patients' unsafe intake of alcohol. Clinicians make referrals to the drug and alcohol specialty team and patients voluntarily accept the referral to address their alcohol intake. The speciality team provides information and assessments, offer clinical opinions for suitable treatments and coordinates patient care. The second service was an outpatient treatment facility located within the outpatient section of the same tertiary hospital. The outpatient service aims to manage patients' ongoing pharmacological treatment, provide general counselling support and act as a follow-up to inpatient stay. The drug and alcohol speciality team consists of doctors who are specialists in Addiction Medicine and psychiatric registrars. Nursing staff also contribute to the inpatient hospital speciality team.

The third treatment service was a withdrawal management unit located within a specialty psychiatric hospital in Adelaide. Patients are voluntarily admitted to this service for approximately five to seven days to receive medical care whilst withdrawing from alcohol. Patients' withdrawal symptoms are managed with pharmacological interventions (e.g. benzodiazepines) as well as comprehensive assessments and discharge planning. Staff counselling and support groups are offered when required. The fourth service was a residential therapeutic community located in rural South Australia, approximately 50-minute drive from Adelaide CBD. Patients are placed on a waiting list for this service (approximately three months) and are required to maintain regular contact with staff (via telephone) to be considered for admission. Patient admission is voluntary and patients are required to reside at the service for three to 12 months. Patients participate in a structured

program that targets living skills, peer and individual counselling support and engagement in twelve-step programs (Jordan, Davidson, Herman, & BootsMiller, 2002).

2.5.2 Data collection timeframe

Data collection occurred over a nine-month period, from September 2013 to June 2014.

Appendix 8.14 illustrates the fieldwork research timeframe. Attendance by the author at each of the services was subject to conditions of approvals and negotiations with service directors. In 2013, the author attended the inpatient hospital and outpatient service weekly, and twice weekly in 2014. Delays were experienced in accessing patients at the withdrawal unit, as the service relocated in late 2013. Recruitment at this service began in February 2014 and was attended twice weekly by the author. This was considered an appropriate time window to recruit patients meeting the inclusion criteria. The minimal number of patients residing at the residential therapeutic community at one time complicated recruitment at this service. For this reason, the author attended the service in November 2013 and a proportion of patients were recruited and seen over four weeks. To allow time for new patients to enter the service, the author re-attended the service in April 2014.

2.5.3 Patient recruitment

Staff at each service assisted the author to identify potential participants from admission lists. Selection of patients was conducted through discussions with staff at meetings, and staff were made aware of the patient selection criteria. In addition, the investigator attended routine ward rounds at the inpatient hospital service, in order to work with staff to select patients meeting the inclusion criteria. Patients deemed suitable were recorded and arrangements for the investigator to be introduced to the patient were made with staff. A proportion of patients were unable to be approached, as they did not attend their outpatient appointment or

prematurely discharged themselves from treatment. When the author was introduced to potential participants, staff conducted a brief pre-screen to assess patients' physical and mental state. If staff deemed the patient well enough, formal introductions were made and the patient was invited to participate in the study. If staff believed the patient was too medically or psychologically unwell to participate, no formal introductions were made. Further information on the recruitment and sampling of patients for each study is provided in subsequent sections of this chapter.

2.5.4 Patient screening

The screening instrument contained three main sections and took approximately 10-15 minutes to administer to patients. The first part included items to confirm the inclusion and exclusion criteria; for example, are you over the age of 18 and when was your last alcoholic drink? Patients were administered the alcohol use disorder (AUD) section of the Mini International Neuropsychiatric Interview (MINI 6.0), to confirm they met lifetime DSM-5 AUD criteria (Sheehan et al., 2010). The MINI is a brief interview tool used to detect the presence of Axis I disorders in the DSM. Psychometric studies indicate the MINI contains acceptably high validity and reliability (Lecrubier et al., 1997; Sheehan et al., 1997). At the time of patient recruitment, the MINI 6.0 was available which included only DSM-IV criteria. Therefore, an additional item was added to incorporate the newly introduced criterion, craving, of the DSM-5.

Patients were required to possess cognitive capacity at the time of recruitment to ensure a) they were capable to provide consent, b) were able to complete the survey and c) were competent to participate in an interview. Patient cognitive ability was assessed using the Mini Mental State Examination (MMSE) (Folstein, Folstein, & McHugh, 1975). The MMSE is an 11-item brief measure that assesses: registration, attention and calculation, recall,

language, ability to follow simple commands and orientation (Cockrell & Folstein, 2002; Folstein et al., 1975). The MMSE was chosen due to its brevity and its reliability to assess cognitive ability in AUD treatment groups (Mattick & Jarvis, 1993). Participants who scored 25 or less on the MMSE, with mild, moderate or severe cognitive impairments were excluded from further participation. Patients who satisfied the screening instrument participated in either the 1) interview and survey study or 2) the survey study only. The only added inclusion criterion for participation in interviews was proficiency in spoken English, which was assessed by the author during screening. The screening instrument utilised is located in Appendix 8.15.

2.6 Qualitative research

Study two adopted a qualitative research design using semi-structured interview methods to explore CoC, treatment need and patient satisfaction with AUD treatment, amongst patients with and without mental conditions.

2.6.1 Theoretical sampling strategy

A theoretical sampling approach was considered most appropriate for the purpose of investigating both a priori (CoC, treatment need, patient satisfaction) and patient driven themes (Glaser, 1978; Mays & Pope, 1995). The main advantage of theoretical sampling is its flexibility to shift with what is being observed in the research context, rather than adhering to a rigid agenda (Coyne, 1997). Chenitz & Swanson (1986) highlight that theoretical sample methods achieve sample representativeness by continually developing and exploring emerging data. In this study, patients with characteristics of interest (mental condition status and treatment setting) were recruited. To recruit patients with various combinations of these variables, sampling grids were utilised throughout data collection and analysis (Barbour,

2007; Patton & Cochran, 2002) (Appendix 8.16). Following analysis of a small portion of data, the theoretical sampling strategy was implemented, where the emergent data informed the subsequent variables of interest and data collection (Coyne, 1997). Level of patient treatment experience emerged as a variable of interest, and was incorporated into the theoretical sampling strategy.

2.6.2 Semi-structured interview schedule

Semi-structured interview methods are characterised by the use of a pre-determined interview schedule but one which allows the participant to guide the direction of the interview (Green & Thorogood, 2010). In this study, the interview schedule was designed to allow for deviations from interview items and their sequence to further explore the patient-driven themes. The author in conjunction with her supervisor developed the interview schedule based on recommendations proposed by Creswell (2007). The schedule included five open-ended questions accompanied by prompts to elicit in-depth information (Creswell, 2003; Srivastava & Thomson, 2009). The design of CoC questions were informed by a review of CoC in the treatment of illness, which suggested that CoC contains both longitudinal and cross-sectional aspects (Johnson, Prosser, Bindman, & Szmukler, 1997). The interview schedule was piloted with one patient to refine and develop the research instrument (Creswell, 2007) and interview questions (Yin, 2003). Piloting highlighted that first-time treatment seekers might have difficulty elaborating on why they were satisfied with treatment. One further prompt was added to the item about satisfaction. This prompt was based on appreciative inquiry methods to focus on what was working well rather than problems experienced (Hammond, 2013). A prompt was also added to the CoC item after the completion of the first outpatient interview, to elicit more information on external services. Appendix 8.17 illustrates the finalised interview schedule used in *study two*.

2.6.3 The framework method

The framework approach to qualitative analysis was developed by Ritchie and Spencer in 1994 as a method to examine pre-existing themes as well as for generating theories appropriate to healthcare objectives (Srivastava & Thomson, 2009). The essential elements of framework analysis are that it is: flexible (i.e. allows for combinations of data e.g. transcripts and observations), systematic (i.e. methods are easily replicable), dynamic (i.e. encourages ongoing modification during data collection and analysis), interconnected (i.e. the researcher is able to move backwards and forwards through the analysis process) and incorporates both *inductive* and *deductive* methods of inquiry (Gale, Heath, Cameron, Rashid, & Redwood, 2013; Green & Thorogood, 2010; Pope, Ziebland, & Mays, 2000; Ritchie & Spencer, 2002).

The framework method of analysis was considered suitable, as the aim of *study two* was to investigate a set of a priori themes whilst allowing patient driven themes to surface. Analyses for the comorbid and non-comorbid groups were conducted separately, to allow for unique themes to arise from the data. Further details on the framework method of data analysis are provided in *study two* (chapter 4 of the thesis). Appendices 8.18 to 8.24 also provide additional materials on the qualitative data analysis process undertaken in this study. Supplementary information not covered in *study two* is now presented.

The final stage of data analysis is called *interpretation and mapping*, where meaning and context of a priori and emergent themes is examined. Ritchie and Spencer (2002) specify that interpretations should seek to understand both associations and explanations in the data, and diagrammatic illustrations are encouraged. To contextualise the data obtained, all data discussed by patients were diagrammatically mapped (Appendix 8.24). As the figure illustrates, patients discussed a wide range of experiences and circumstances. Analysis of the interview narratives revealed that patients did not view their experiences of treatment in

isolation of their overall life circumstances. Notwithstanding patients' interest in sharing these accounts, the final analysis of the data focussed on the narratives of direct relevance to the key research question and objectives.

The next stage of interpretation involved examining the themes: CoC, treatment need and satisfaction. Items in the interview schedule were organised according to a priori themes, to allow for discrete exploration of the constructs. However, ongoing analysis revealed that the constructs were largely interrelated and cemented in an interconnected web of patients' experiences of treatment. It became apparent then, that treating the data as independent themes would fail to capture the rich relationships between constructs. To overcome this, the author applied methods of thematic network analysis to illustrate the interconnectedness between themes (Attride-Stirling, 2001). Thematic network analysis is a technique used to depict interconnected thematic themes in a web-like network, sorted according to importance (Attride-Stirling, 2001). Analysis also identified stigma as a global patient-driven theme and was included in the network. The thematic network produced from analysis is located in *study two* (chapter 4 of the thesis).

2.6.4 Quality in qualitative research

One of the major criticisms of qualitative research in healthcare settings is the idea that qualitative studies lack objectivity (Malterud, 2001) and scientific rigor (Mays & Pope, 1995). In response, researchers have formulated quality guidelines which aim to improve the credibility and trustworthiness of qualitative findings (Creswell & Miller, 2000; Cutcliffe & McKenna, 2004; Daly, McDonald, & Willis, 1992; Lincoln & Guba, 1985; Malterud, 2001; Mays & Pope, 1995; Pope et al., 2000; Tracy, 2010). A number of techniques for quality were incorporated into the process of data collection, analysis and interpretation. An audit trail was maintained throughout the study process. An audit trail refers to documentation

which tracks the decisions and changes made during the research process (Given, 2008). The audit trail included observations made on the strengths and weaknesses of interviews, and was used during supervisor debriefing sessions, which occurred periodically throughout data collection and analysis (Cutcliffe & McKenna, 2004; Mays & Pope, 1995; Tracy, 2010). Author assumptions, emerging themes, challenges and methodological issues were also discussed (Creswell & Miller, 2000). Efforts to improve the transferability of findings (i.e. the extent to which study findings can be applied to other settings or groups) were made by providing detailed descriptions of the sampling methods, patient characteristics, research biases and study setting (Creswell & Miller, 2000; Malterud, 2001; Pope & Mays, 1995). Other methods for enhancing the credibility and trustworthiness of qualitative findings are provided in *study two* (chapter 4 of the thesis).

2.6.4.1 Reflexivity

Reflexivity is considered a measure of validity in qualitative studies, through its ability to address researcher bias on the data (Creswell & Miller, 2000). The author documented preconceptions, hypotheses and expectations related to the interview process, to make known any preconceiving biases (Malterud, 2001). A working hypothesis was documented which anticipated that patients with comorbidity would express greater dissatisfaction with the quality of existing treatment services, through services' inability to effectively address their needs. Another expectation, based on prior research experience, was that patients might be difficult to engage in interviews due to possible stress of their admission and health needs and the impact of stigmatisation (Penick et al., 1988; Schomerus, Corrigan, et al., 2011). For this reason, the author made concerted efforts prior to data collection to familiarise herself with interviewing recommendations for healthcare professionals in this field. These included

taking a non-judgmental approach to questioning by normalising and building a workable rapport (Shand, Gates, Fawcett, & Mattick, 2003).

Reflexivity considerations were also documented after the completion of each patient interview. The author critically reflected her reactions and relationships with patients, body language and speech, rapport and empathy (Smith & Firth, 2011). As a result, several characteristics of the author were noted as potentially impacting on patients' willingness to participate in interviews and interview content:

Not being a member of service staff appeared to encourage patients to disclose frank information about the treatment they had received. There were some instances at the inpatient hospital where the author felt patients believed her to be a member of staff, as she was introduced to patients at ward rounds. After reiterating university affiliation of confidentiality requirements, patients appeared more willing to reveal any dissatisfaction. Issues with interviewer affiliation were not observed at other treatment services, as the author was introduced to patients in isolation from service staff. It is probable that an interviewer affiliated with the service may have not obtained the same level of information on dissatisfaction from patients.

Being female was observed to positively impact on building rapport and interview detail with female patients. Female patients disclosed experiences of domestic violence, child neglect and sexual assault. It is possible that a male interviewer may not have obtained this information from female patients. In addition, *education level* appeared to impact on both rapport and interview detail. Patients who had obtained a tertiary education or who described themselves as "intellectuals" appeared eager to participate in the study and rapport was easily established. In some cases, patients described a desire for intellectual stimulation or to 'talk to someone on the same page'. It was observed that this occurrence might reflect a process known as self-stigmatisation, where patients internalise common stigmatised perceptions of

persons with an addiction (Schomerus, Corrigan, et al., 2011). The investigator noted that some patients might have participated in the research study as a method of dissociating themselves from the wider addiction treatment group. For patients without a high education level, the education level of the interviewer did not appear to impact on rapport or interview detail.

Lastly, the *empathy skills of the interviewer* appeared to positively impact on both rapport and interview detail. Building rapport with patients with addictions is pivotal to reduce the impact of stigmatisation (Shand et al., 2003). At the time of interviews, the author was a provisional psychologist who had obtained clinical skills in building rapport and illustrating empathy with patients. The author aimed to exercise communicative techniques of reflective and active listening during interviews, and to respond and validate patients' thoughts and feelings (Prasad, 2005). It is possible that an interviewer who lacked training in clinical interviewing may not have obtained the same detail from patients. It is important to note that no formal psychological interventions were provided during interviews.

2.7 Quantitative research

Study three utilised a cross-sectional research design using survey methods to compare patient satisfaction with treatment, among patients with and without comorbidity. In addition, this study aimed to control for a number of previously under-researched variables, including: treatment setting, treatment readiness, locus of health control and general satisfaction with life.

2.7.1 Systematic sampling strategy

Generally speaking, publicly funded healthcare services in South Australia allow patients to voluntarily provide treatment feedback via feedback surveys. Whilst this approach offers

benefits in terms of convenience, it is likely to be associated with sample bias, as persons are less likely to provide negative evaluations of treatment unless prompted (Staniszewska & Henderson, 2004). With this in mind, a systematic sampling strategy was considered appropriate with the purpose of capturing a representative range of treatment experiences. Patients meeting the inclusion criteria within the study time frame were consecutively approached. In addition, patients receiving treatment at inpatient or residential services were recruited based on discharge date. The purpose of this was to obtain information based on patients' entire treatment experience, rather than the initial stages of treatment.

2.7.2 Survey/Questionnaire

The survey was designed as an A5 sized booklet to be completed by hand. It was decided not to offer the survey electronically, as to not exclude participants without access to a computer or the Internet. Decisions made about the survey were based on gaining sufficient data whilst keeping patient burden as minimal as possible. Therefore, the structured instruments were selected based on a combination of psychometric quality and brevity. The survey was piloted with five patients prior to major data collection. These patients were interviewed after the completion of the survey and information on the appropriateness of questions, reader ease, font type and size and completion time were obtained. Piloting indicated that the survey took approximately 10 to 15 minutes to complete and this was considered a reasonable patient burden. A copy of the survey is located in Appendix 8.25. The variables of interest were chosen based on gaps identified in current literature and clinical expert opinion.

2.7.2.1 Treatment setting

To date, the impact of treatment setting on patient satisfaction with the treatment of comorbidity remains unclear. Schulte et al., (2011) found that patients with comorbidity

reported overall high satisfaction despite treatment modality or intervention type. However, studies conducted with single diagnoses samples have reported significant differences in patient satisfaction of treatment depending on treatment modality and setting (Day & Strang, 2011; Morris & McKeganey, 2007; Schaefer, Ingudomnukul, Harris, & Cronkite, 2005). General consensus in the literature suggests that outpatient treatment is associated with enhanced patient satisfaction, when compared to inpatient treatment services (Day & Strang, 2011; Schaefer et al., 2005). In addition, residential treatment programs are often neglected in research examining the impact of comorbidity in treatment (Mortlock, Deane, & Crowe, 2011). As a result, the author decided to control for the impact of treatment setting, through the inclusion of four different services and modalities of treatment.

2.7.2.2 Addiction severity

Addiction severity refers to the level of impact one's addiction has on key areas of daily functioning (i.e. social relationships, health, work) (Rush, First, & Blacker, 2008). Previous studies indicate that patients with severe addictions are at risk of poor treatment course and outcomes, when compared to patients with less problematic addictions (Alterman et al., 1994; Havassy, Hall, & Wasserman, 1991; Humphreys, Moos, & Cohen, 1997; McLellan, Lewis, O'Brien, & Kleber, 2000). Addiction severity was included in the patient survey to gain important clinical information to describe the patient sample. The authors believed this information would assist in the interpretation of data and provide valuable insights into transferability and generalisability of findings.

Patient addiction severity was assessed using the Addiction Severity Index-Self Report (ASI-SR) (Rosen, Henson, Finney, & Moos, 2000). The ASI-SR was developed based on the pre-existing structured clinical interview the Addiction Severity Index (ASI), which includes both objective and subjective measures (McLellan, Luborsky, Woody, & O'Brien,

1980). The ASI examines seven areas of functioning commonly affected by addiction, including: medical, employment, alcohol, drug, legal, family/social and psychiatric (McLellan et al., 1980). Internal consistency of the ASI ranges from moderate to high, (0.70 and higher), particularly for areas of alcohol, drug, medical, psychiatric and family/social functioning (Rush et al., 2008). Test re-test reliability of ASI ranges from 0.40 to 0.80 (McLellan et al., 1992). Studies reporting on the discriminant validity of the ASI have drawn comparisons between the psychiatric index and the Beck Depression Inventory (0.52). Similarly, correlations between the alcohol index and the Quantitative Inventory of Drinking Behaviour have been reported at 0.87 (Alterman et al., 1998).

The ASI-SR was validated with 341 patients entering detoxification, residential rehabilitation and outpatient substance abuse treatment. Rosen et al., (2000) compared composite scores of the self-reported and clinical interview format of the ASI. Results indicated that composite scores for alcohol, drug, psychiatric, family, legal and employment problems moderately correlated 0.59-0.87; however, medical problems only correlated 0.47 across both formats (Rosen et al., 2000). In addition, it was found that patients were more likely to divulge psychiatric and drug symptoms by self-administered questionnaire than by clinical interview (Rosen et al., 2000). An example of an item of the ASI-SR includes: *“In the past 30 days, how many days have you experienced medical problems (not related to drugs or alcohol)?* Rosen et al., (2000) provide strict scoring procedures which produce an overall composite score for each area of functioning. The composite scores range from 0 to 1, where a higher score indicates more severe problems with functioning. The ASI-SR was chosen due to its comprehensiveness, good psychometric properties for an AUD treatment group and convenience in regards to brevity and self-report.

2.7.2.3 Treatment readiness

The inclusion of treatment readiness was informed by results of a systematic review of patient satisfaction in the treatment of comorbidity (Schulte et al., 2011). Schulte et al., (2011) concluded that whilst studies have reported minimal differences in patient satisfaction amongst patients with and without comorbidity (Boden & Moos, 2009; Herrell, Fenton, Mosher, Hedlund, & Lee, 1996), these studies had not controlled for the impact of patient treatment readiness, which has shown importance in single diagnoses samples (Dearing, Barrick, Dermen, & Walitzer, 2005). More specifically, previous studies suggest that patients who are more motivated to engage in treatment are more likely to report higher treatment satisfaction, compared to patients who are less motivated (Dearing et al., 2005). High patient motivation has been shown to predict both treatment engagement (DeLeon, Melnick, Kressel, & Jainchill, 1994) and positive outcomes (Carbonari & DiClemente, 2000; Mattson et al., 1998) in AUD samples. As a result, patient treatment readiness was included as a variable of interest, as to control for its impact when comparing patient satisfaction among patients with and without comorbidity.

Treatment readiness was assessed using the Readiness To Change Questionnaire Treatment Version (RCQ-TV) (Heather, Luce, Peck, Dunbar, & James, 1999). The RCQ-TV is a self-reported questionnaire which is based on the Transtheoretical Model and Stage of Change Theory (Prochaska & DiClemente, 1986). This theory suggests that individuals exhibit varying levels of motivation to change drinking behaviour, which can be summarised into pre-contemplation, contemplation and action stages (Prochaska & DiClemente, 1986). The pre-contemplation stage refers to patients who do not recognise their drinking as a problem and are unwilling to change in the near future. Conversely, the contemplation stage refers to patients who are aware of the negative consequences of their drinking and intend to adopt a healthier lifestyle in the near future. The action stage of change refers to patients who

have successfully changed their drinking behaviour and intend to continue with their behaviour change.

The RCQ-TV contains 12-items and patients respond on a 5-point Likert scale ranging from strongly disagree to strongly agree. An example of an item in the RCQ-TV is “*giving up or drinking less alcohol would be pointless for me*”. The RCQ-TV is a modified version of the Readiness To Change Questionnaire (Rollnick, Heather, Gold, & Hall, 1992) that specifically focuses on patients *currently* receiving treatment. Patient responses are totalled within each of the three categories, ranging from -8 to 8. The highest scale score represents the patients’ stage of change. In *study three*, no patient scored in the pre-contemplation stage of change, and this category was not entered into the multiple regression analysis.

The RCQ-TV has been normed on a sample of 263 patients receiving treatment for alcohol problems across residential, inpatient detoxification and outpatient services (Heather et al., 1999). Assessments of internal consistency indicate a good correlation for the pre-contemplation (0.74), contemplation (0.69) and action (0.86) scales (Heather et al., 1999). The test re-test reliability correlations varied amongst scales: pre-contemplation (0.34-0.51), contemplation scale (0.30-0.40) and action scale (0.32-0.67). An assessment of concurrent validity compared the RCQ-TV to the University of Rhode Island Change Assessment (URICA) (McConaughy, Prochaska, & Velicer, 1983) which examines stage of change without specific reference to a problem. Results indicated that whilst correlations were highly significant, the correlations were only moderate: pre-contemplation (0.53), contemplation (0.39) and action (0.56). Whilst psychometric properties of the RCQ-TV are only adequate and it somewhat lacks comprehensiveness when compared to other instruments (i.e. those that assess 5 stages of change), it was chosen for inclusion in this study due to the minimal number of instrument items and its focus on patients *currently* seeking treatment.

2.7.2.4 Locus of health control

The inclusion of patient locus of health control was informed by both clinical opinion and review of the relevant literature. The head of the drug and alcohol specialty team was consulted to ascertain possible variables that may impact on patients' experiences of AUD treatment. Based on clinical observations, the clinician indicated patients who exhibited internal control towards their AUD were more likely to have positive experiences of treatment, as opposed to those who were externally focussed. The existing literature was reviewed and there appeared minimal investigation of the impact of locus of health control in AUD treatment samples. However, one previous study suggested that patients with an external locus of health control were less motivated for treatment and consequently may be less satisfied (Donovan, Rohsenow, Schau, & O'Leary, 1977). Similarly, another study indicated that patients with an internal locus of control more readily accept and participate in treatment (Miller, 1985). As a result, the present study assessed patient locus of health control to determine if its impact was important in the analysis of patient satisfaction with AUD treatment.

Locus of health control was assessed using the Multidimensional Health Locus of Control scale (MHLC) (Wallston, Wallston, & DeVellis, 1978). Locus of health control refers to patients' belief in his/her ability to control health related outcomes. This study utilised Form C of the MHLC, which is designed to specifically measure *existing* conditions (Wallston, Stein, & Smith, 1994). The MHLC contains 18-items that are rated on a 6-point Likert scale, ranging from strongly disagree to strongly agree. Based on responses, patients are allocated to 1 of 4 categories of locus of control including: internal, chance, doctors or other people. Internal locus of control refers to patients' belief that the course of their AUD is determined by their own behaviour. Chance locus of control refers to patients' belief that

fate, luck or chance influences their AUD. Conversely, Doctor and Other people locus of control refers to patients' belief that powerful others such as friends, family, doctors are likely to control the course of their AUD. An example item of the MHLC is "*whatever improvement occurs with my problem with alcohol is largely a matter of good fortune*". In the present study, the phrasing 'condition' was replaced with 'problem with alcohol', which is encouraged by the instrument manual guidelines. Patient responses are summed within the each of the discrete categories, ranging from 6 to 36 for *internal* and *chance* categories and 3 to 18 for *doctor* and *other people*. The category with the highest score reflects the patients' locus of health control. In *study three*, categories: chance, doctor and other people were lumped together as an 'external' group to reduce the number of factors entering the multiple regression analysis.

The MHLC Form C has been normed on a sample of 588 patients receiving treatment for four chronic conditions: rheumatoid arthritis, chronic pain, diabetes and cancer (Wallston et al., 1994). Assessments of internal consistency indicate good correlations for internal (0.85-0.87), chance (0.79-0.82), doctors (0.71) and other people (0.70-0.71) subscales (Wallston et al., 1994). Test re-test reliability coefficients for the arthritis sample range from 0.54-0.66 and for the chronic pain sample, range from 0.40-0.80. To measure concurrent validity, Wallston et al., (1994) compared Form C of the MHLC to both Form B of the MHLC (Wallston et al., 1978) and the Levenson's Scale (Levenson, 1973), which assess general locus of control. Results indicated variation between corresponding subscales of Form C and Form B, including: internal (0.59), chance (0.65), doctor, (0.55) and other people (0.38). Similarly, correlations between Form C and the Levenson's Scale ranged from: internal (0.35), chance (0.38-0.50) and other people (0.30-0.41) (Wallston et al., 1994). The MHLC Form C was chosen due to its benefits in brevity and its focus on *existing* conditions, which was considered important in assessing patients in AUD treatment.

2.7.2.5 Life satisfaction

The inclusion of life satisfaction was informed by both clinical opinion and research. The author wanted to ensure that patient appraisals of treatment were a true reflection of their actual treatment experiences, rather than an assessment of patients' cognitive judgmental processes (Diener, Emmons, Larsen, & Griffin, 1985). A prospective cohort study ($n=120$) found that patient satisfaction with psychiatric treatment was significantly correlated with patients' general satisfaction with life in areas of housing, money and relationships (Blenkiron & Hammill, 2003). Similarly, a 4-month prospective cohort study ($n=154$) reported a significant relationship between patients' general disposition to be satisfied and patient satisfaction with treatment (Fontana, Rosenheck, Ruzek, & McFall, 2006). Previous studies highlight the impact of social desirability bias in satisfaction surveys, where patients report higher satisfaction with treatment, as they may believe positive comments are more acceptable for continuing treatment (WHO, 2000). Pernerger (2004) recommends that patients tendency to give a positive opinion should be adjusted for in the assessment of patient satisfaction with treatment. For this reason, patients' general satisfaction with life was assessed and controlled for in the analysis.

The Satisfaction With Life Scale (SWLS) was used to assess patients' general satisfaction with life (Diener et al., 1985). The SWLS is a brief 5-item scale. Patients are required to respond on a 7-point Likert scale, ranging from strongly disagree to strongly agree. An example item of the SWLS is "*If I could live my life over, I would change almost nothing*". Patient responses are totalled to produce an overall satisfaction score, ranging from 5 to 35. The higher the total score, the more satisfied the patient is with their life. Qualitative descriptions of the total score are provided, including: extremely dissatisfied, dissatisfied, slightly below average, average, high and highly satisfied. Pavot et al., (1991) reported that

the SWLS is a highly validated and reliable measure of satisfaction, which can be applied in a wide range of groups and samples.

2.7.2.6 Patient satisfaction with treatment

Patient satisfaction with treatment was the outcome variable of the study and was assessed using the Treatment Perception Questionnaire (TPQ) (Marsden et al., 2000). The TPQ examines patients' perceptions of staff and treatment programs. The TPQ is a 10-item self-reported questionnaire and takes approximately three-minutes for patients to complete. An example item is "*I believe the staff are good at their jobs*". Respondents are required to select answers using a 5-point Likert scale, ranging from strongly disagree to strongly agree. Five of the items are negatively worded and are reversed when scored to produce positive evaluations. The sum of all 10 items is calculated to produce a global satisfaction score, ranging from 0 to 40. Higher scores represent increased satisfaction with treatment and lower scores represents dissatisfaction with treatment.

The TPQ has been shown to possess good construct and discriminant validity, good internal reliability and sufficient test-re-test reliability in SUD treatment groups (Marsden et al., 2000). The TPQ includes 5-items related to patient satisfaction with staff (*staff perception sub-scale*) and 5-items related to satisfaction with the program/ service (*program perception subscale*). Assessments of internal consistency have revealed good to excellent correlations for the staff perception (0.58-0.86) and average to excellent correlations for program perception subscales (0.37-0.92) (Marsden et al., 2000). Test re-test reliability correlations were found to be average, ranging from 0.40-0.60 (Marsden et al., 2000).

The TPQ is the second most utilised questionnaire in research examining patients with comorbidity (Schulte et al., 2011), after the Client Satisfaction Questionnaire (CSQ) (Attkisson & Zwick, 1982). Although the CSQ is more frequently used and contains excellent

psychometric properties, its standardisation and norms were developed based on a community sample of patients with mental illness (Attkisson & Zwick, 1982). Conversely, the TPQ was developed based on patients with primary SUDs at inpatient and community treatment centres and methadone programs ($n=156$) (Marsden et al., 2000). The TPQ was therefore considered more suitable for the present study, which was also conducted within SUD services.

2.7.2.7 Patient mental condition

Patients' symptoms of mental illness were assessed using the Depression Anxiety Stress Scale-21 (DASS-21) (Lovibond & Lovibond, 1995b). The DASS-21 measures three psychological states: depression, anxiety and stress. Respondents are required to answer each item according to how much the statement applied to them, within the past week. Each item is responded to using a 4-point Likert scale; where 0 represents 'did not apply to me at all' and 3 represents 'applied to me very much, or most of the time'. An example of an item in the DASS-21 is: "*I felt that I had nothing to look forward to*". Each domain is summed and scores range between 0 and 21. Higher total scores within each domain reflect higher levels of that state.

Measures of internal consistency for the DASS-21 in a clinical population have reported good to excellent coefficients for the depression (0.96), anxiety (0.89) and stress (0.93) subscales (Fischer & Corcoran, 2007). Test re-test reliability correlations have been calculated over a two period and reported as good to excellent (0.71-0.81) (Fischer & Corcoran, 2007). To measure construct validity, Taylor et al., (2005) compared the DASS-42 to the Zung Self-Rating Depression Scale (Zung, 1965) in psychiatric, chronic pain and general population samples. Results indicated that the DASS-42 provided a superior fit for mental conditions which were mostly free from somatic symptoms (Taylor, Lovibond,

Nicholas, Cayley, & Wilson, 2005). This was particularly relevant in the present study, as heightened anxiety is often a symptom of alcohol withdrawal syndrome.

The DASS-21 was used to determine the level of depression, anxiety and stress symptoms experienced by patients at the time of treatment. Patients who scored in the *extremely severe* range of the depression and/or anxiety subscales were allocated to the *mental condition* group, as this is where symptoms are considered significant enough to warrant clinical intervention (Lovibond & Lovibond, 1995a). Patients scoring in remaining categories were allocated to the *single AUD group*. A measure of mental condition as an assessment of comorbidity was chosen for three main reasons. Firstly, mental conditions have lacked consideration in the classification of comorbidity, despite research indicating the negative impact they have on patients' outcomes after treatment (NDARC, 2010). Secondly, pre-existing psychiatric diagnoses in SUD treatment groups have been found to be largely inaccurate, often leading to ineffective treatment (Drake, Alterman, & Rosenberg, 1993). Lastly, the authors decided against the administration and use of diagnostic screening tools, as a means to keep patient burden to a minimum.

2.7.3 Statistical analyses

All statistical analyses were conducted using the software package Statistical Analysis in Social Science (SPSS), in Microsoft Windows format. To compare the scores of patients with and without comorbidity on the variables of interest, a series of independent samples-*t*-tests and chi square analyses were conducted.

The second step of statistical analyses aimed to determine if having a mental condition predicted a significant amount of variance in patient satisfaction, when controlling for the impact of the confounding variables: treatment setting, patient treatment readiness, patient locus of health control and general satisfaction with life. A hierarchical multiple

regression was considered most suitable to test this research question. All assumptions for a hierarchical multiple regression were tested and multicollinearity between the variables *outpatient* and *inpatient hospitalisation* was identified. All categorical predictor variables were dummy coded as follows: treatment readiness (0= contemplation, 1= action) and locus of health control (0= internal, 1= external). To overcome any issues associated with the high correlation between the variables *outpatient* and *inpatient hospitalisation*, two separate models were created in the regression analysis. Model 1 included the variables: inpatient hospitalisation, outpatient and residential therapeutic community. Model 2 included the variables: inpatient hospitalisation, outpatient and inpatient detoxification. The variables: treatment setting, patient treatment readiness, locus of health control and general satisfaction with life, were entered into the regression model at Step 1. Entered at Step 2 was the variable patient comorbidity status (0 = single AUD; 1= comorbidity). The results produced from the hierarchical multiple regression analysis indicated whether having a mental condition had a significant impact on patient satisfaction with treatment, when controlling for the impact of the aforementioned under-researched variables. Patient age and gender were not entered into the analysis, as previous literature suggests patient demographic characteristics have minimal impact on patient satisfaction with the treatment of comorbidity (Schulte et al., 2011).

The final step of statistical analyses aimed to determine if patients with a mental condition were significantly less satisfied with specific aspects of treatment, when compared to patients without comorbidity. To test this question, all items of the TPQ satisfaction instrument were re-coded into new variables. Responses of 0 ‘strongly disagree’ were recoded as 1 and all remaining responses were re-coded as 0. It was decided to only assess responses of ‘strongly disagree’ to detect areas of positive dissatisfaction and thus identify aspects which may benefit from improvement. Using the re-coded categorical variables, a series of chi-square tests for independence (with Fisher’s Exact Test) were conducted for

each item of the TPQ. The results produced from the series of chi-square tests indicated the specific aspects of treatment patients with comorbidity were significantly less satisfied with, when compared to patients with a single AUD.

2.7.4 Content analysis of open-ended response

The TPQ measure of treatment satisfaction includes an open-ended item where patients provide feedback and make recommendations for improvements (Marsden et al., 2000). The item is: *“Please write down in the box below any comments you would like to give us about the treatment you have received here. We would be very interested if you could tell us how you think we could improve the service.”* To analyse the data produced from this item, a basic inductive content analysis was conducted (Weber, 1990). Basic content analysis is commonly used to condense text from open-ended survey questions by reducing qualitative text into related codes and themes (Krippendorff, 2012; Weber, 1990). Inductive content analysis is undertaken when there is little information on the topic (Elo & Kyngas, 2008). Therefore, an inductive approach was considered most appropriate, as the purpose of the analysis was to understand how services could be improved based on the patients’ perspective.

Inductive content analysis involved three main stages: open coding, grouping and abstraction (Elo & Kyngas, 2008). Firstly, all qualitative text was entered into Microsoft Word charts, along with corresponding patient codes, age, gender, treatment setting and mental condition status. The author conducted open coding by re-reading the text and allocating appropriate headings, codes and themes to the data. Codes were then grouped according to higher order themes (Elo & Kyngas, 2008). Codes were grouped according to positive comments/satisfaction or negative comments/dissatisfaction. Within these headings, the text was then grouped under sub-headings according to whether the comments related to treatment staff or the treatment intervention/program/service. The final stage involved

abstraction of the data, where main categories were formulated based on the grouping of headings according to similarities and shared ideas (Elo & Kyngas, 2008). During abstraction of the data, the author combined patients' feedback relating to unmet need and suggestions for improvement to propose overarching aspects of treatment that could be improved. For example, one patient stated that: "*some staff are not helpful and can be unpleasant at times, arrogant and rude (some staff)*". This text was interpreted as a negative comment/dissatisfaction relating to staff and was therefore abstracted to the main theme for improvement: *staff qualities*. Appendix 8.26 outlines the grouping stage of the inductive content analysis conducted on qualitative data.

2.8 Additional analyses

Previous studies state patients should be encouraged to respond to treatment satisfaction assessments anonymously, to ensure responses are honest (Stephens, Scott, & Muck, 2003). Anonymity was enhanced in the quantitative study, where patients responded to the satisfaction instrument without the author being present. However, patients were not anonymous in the qualitative study, as interviews were conducted face-to-face. Accordingly, two separate analyses were conducted outside the scope of individual study aims, to examine whether participation in the interview study had any impact on other findings obtained in this research.

The first analysis aimed to determine if participation in the interview study had any impact on the results obtained by the satisfaction instrument. In cases where patients participated in both the interview and survey study, the interview preceded the survey. Results from an independent samples *t*-test found patients who participated in both the interview and survey were more satisfied with treatment $M=26.13$ ($SD=6.83$) when compared to patients who participated in the survey study only $M=25.92$ ($SD=8.0$)

[instrument range 0-40]. However, this difference was not significantly significant $t(83) = 0.13, p = .90$ (two-tailed) and the magnitude of the difference was considered very small (mean difference = .21, 95% CI: -3.5 to 3.08).

The second analysis aimed to determine if participation in the interview study had any impact on whether patients responded to the open-ended item of the satisfaction questionnaire. Previous authors state that collecting written text without the researcher present is more likely to obtain candid comments when compared to information obtained by face to face interviews (Collins, 2010). A chi-square test for independence (with Yates Continuity Correction) indicated patients were just as likely to respond to the open-ended satisfaction item, regardless of whether they participated in an interview or not, $\chi^2(1, n = 89) = 0.13, p = 0.72, \phi = -0.06$ (small effect). Collectively, results from the additional analyses suggest that participation in the interview study had no major impact on other findings obtained in this research.

The following three chapters of the thesis describe in greater detail, each of the three research studies undertaken.

CHAPTER THREE. STUDY ONE

“A literature review of continuity of care in the treatment of patients with dual diagnosis: Definitions, applications and implications”

- PAPER ACCEPTED FOR PUBLICATION -

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3.1 Statement of authorship

McCallum, S.L., Mikocka-Walus, A.A., Turnbull, D., & Andrews, J.M. (2015). A literature review of continuity of care in the treatment of patients with dual diagnosis: Definitions, applications and implications. *Journal of Dual Diagnosis*. Accepted for publication 27 May 2015.

Stacey McCallum (candidate)

I was responsible for the primary authorship of this study and correspondence with reviewers and journals. I am accountable to the design, systematic search process, analysis and writing of the manuscript. Mr. Christopher Bean from the University of Adelaide acted as a second reviewer to assess the methodological quality of papers.

Signed: Stacey McCallum

Date:12/08/2015

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Antonina Mikocka-Walus, Deborah Turnbull, and Jane Andrews (co-authors).

We were the supervisors of the research programme that led to this publication. There was ongoing collaboration between Stacey McCallum and us in the refining the research questions, limits of database searches, interpretation of findings and drafting of the manuscript. We also provided advice on responding to comments by journal editors and reviewers. We hereby give permission for this paper to be incorporated in Stacey McCallum's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed: Antonina Mikocka-Walus

Date: 12/08/2015

Signed: Deborah Turnbull

Date 13/08/2015

Signed: Jane Andrews

Date:13/08/2015

Note. The original published manuscript uses the term 'dual diagnosis'; however, the term 'comorbidity' is used in this thesis for reader ease and consistency. This chapter is formatted according to the requirements of the Journal of Dual Diagnosis.

Abstract

Objective To undertake a review of the current literature on continuity of care in the treatment of patients with comorbidity. In particular, this review set out to clarify how continuity of care had been defined, applied and assessed in treatment, to enhance its application in both research and clinical practice. **Methods** To identify articles for review, the term ‘continuity’ and combinations of ‘substance’ and ‘treatment’ were searched in electronic databases. The search was restricted to quantitative articles published in English after 1980. Papers were required to discuss ‘continuity’ in treatment samples that included a proportion of patients with comorbidity. **Results** A total of 18 non-randomised studies met the inclusion criteria of this review. Analysis revealed six core types of continuity are recognised in this treatment context: *continuity of relationship with provider(s)*, *continuity across services*, *continuity through transfer*, *continuity as regularity and intensity of care*, *continuity as responsive to changing patient need* and *successful linkage of the patient*. The literature was synthesised where there was sufficient consistency in the application of continuity of care. Results indicated that patient age, ethnicity, medical status, living status and the type of mental health and/or substance use disorder influenced the continuity of care experienced in treatment. Similarly, some evidence suggested that achieving continuity of care was associated with positive patient and treatment-related outcomes. **Conclusions** This review provides a summary of how continuity of care has been understood, applied and assessed in the literature to date. Findings provide a platform for future researchers and service providers to implement and evaluate continuity of care in a consistent manner, to truly determine its significance in the treatment of patients with comorbidity.

Key words: dual diagnosis, comorbidity, continuity of care, literature review

Introduction

Continuity of care (CoC) is frequently cited as a method to improve treatment quality and outcomes in the care of the chronically ill (American Medical Association, 2012; Fortney et al., 2003; Greenberg, Fontana, & Rosenheck, 2004; Harris & Zwar, 2007; Kenny, Kidd, Tuena, Jarvis, & Roberston, 2007). Specifically, CoC is considered important in the treatment of patients with comorbidity (Kenny et al., 2007) due to its capacity to address the ongoing challenges experienced by providers and patients in sustaining treatment (Najt, Fusar-Poli, & Brambilla, 2011; Rao & Shanks, 2011).

In the treatment comorbidity, clinical profiles of patients are more complex than in those with single morbidities. Profiles of patients with comorbidity vary depending on the specific mental health symptoms, the substance(s) being used and the etiology and relationship between symptoms over time (Kay-Lambkin, Baker, & Lewin, 2004). As a consequence, patients with comorbidity present to treatment services with more diverse needs. These needs require multidisciplinary, integrated treatment, tailored to both mental health and substance use issues (Mills, Deady, Proudfoot, et al., 2010). However, evidence to support the effectiveness of various treatment interventions for comorbidity is sparse and providers are faced with few validated treatment options (Kay-Lambkin et al., 2004). Providers are further constricted by a number of systemic issues such as separation between mental health and substance abuse services (Askey, 2007; Belling et al., 2011), limited financing and resources (Ridgely, Goldman, & Willenbring, 1990) and ongoing high staff-turnover (Torrey, Tepper, & Greenwold, 2011).

Accordingly, it is no surprise that patients with comorbidity report difficulties in ‘navigating their way through services’ required to address their needs (Mills, Deady, Proudfoot, et al., 2010) and are described to ‘fall between the cracks of the treatment system’

(Kay-Lambkin et al., 2004; Kessler, 2004; Staiger et al., 2011; Teesson & Byrnes, 2001). As a result, patients with comorbidity often receive less than optimal treatment. For example, compared to patients with single morbidities, patients with comorbidity experience an increased risk of treatment drop-out (Charney, Paraherakis, Negrete, & Gill, 1998; Najt et al., 2011), relapse to substance use (Kay-Lambkin et al., 2004), ongoing functional impairment and poor medical, psychological, social and familial related outcomes (Kessler, 2004). Furthermore, patients with comorbidity place added burden on the health care system (Hanninen, Takala, & Keinanen-Kiukaanniemi, 2001; Rush, Urbanoski, Bassani, Castel, & Wild, 2010) through high service use and continued service re-admission (Tómasson & Vaglum, 1998).

Consumer reports and healthcare guidelines recommend CoC to ensure the treatment needs of patients with comorbidity are met (Bachrach, 1981). However, CoC is a complex construct and its meaning and application are not consistently defined nor understood. This inconsistency has led to variations in its operationalisation, application and assessment in treatment. As a result, there is currently little evidence to support whether CoC is effective in improving outcomes for patients with comorbidity (Van Walraven, Oake, Jennings, & Forster, 2010). A 2010 review of the literature concluded that the major barrier facing the treatment of comorbidity is the lack of consistency in terminology and service provision frameworks across services (Canaway & Merkes, 2010). The other major issue relating to CoC is that treatment guidelines are indirect and fail to provide practical methods for achieving CoC in treatment. For example, guidelines for the treatment of co-occurring mental health and substance abuse symptoms state “*services must ensure CoC ...[by] establishing systems that ease clients’ transitions between services to prevent them from falling into the gaps between services*” (NDARC, 2010, pg. 20).

Other healthcare sectors have achieved consistency in applying CoC in a way that meets the specific needs of the patient group and treatment setting (Haggerty et al., 2003). For example, in primary healthcare and in diabetes management, CoC is understood as the ongoing interpersonal relationship between the patient and general practitioner or physician (Hanninen, Takala, & Keinanen-Kiuaanniemi, 2001; Rush et al., 2010). In mental healthcare settings a multidimensional application of continuity, which is characterised as being longitudinal, individual, comprehensive, flexible, relational, accessible and communicable is emphasised (Bachrach, 1981). Given the likely importance of CoC in the treatment of patients with comorbidity, it is vital to investigate how CoC is specifically understood and achieved in this treatment context, as it does not yet exist.

This article therefore provides a review of the published literature that examined the concepts, definitions and outcomes of CoC in patients with comorbidity. Firstly, the review aimed to explore how CoC had been defined, to reveal which aspects of continuity are central to the treatment of comorbidity. A secondary aim was to investigate how CoC had been applied and measured by contributing studies, in order to identify information for its implementation and assessment in treatment. Lastly, this review aimed to detect areas of consistency in the measurement of CoC to determine whether there is evidence that CoC is important in the treatment of comorbidity, and to determine if patients with comorbidity receive poorer CoC in treatment when compared to patients with single disorders.

Methods

Search strategy & procedure

Originally, the authors set out to produce a systematic review investigating CoC in the treatment of patients with comorbidity. Accordingly, the search strategy and procedure was

conducted according to evidence-based systematic review guidelines (Meline, 2006; NHMRC, 1999; Pettricrew & Roberts, 2006). Recommendations suggest a quality appraisal of included studies and the application of the PRISMA statement to summarise the search procedure (Moher, Liberati, Tetzlaff, & Altman, 2009; Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009).

A comprehensive search of the terms “continuity” and MeSH and Emtree substitutes of “substance” and “treatment” was performed in 2012 and again in 2013. Terms were searched in titles, abstracts and full-texts of the following electronic databases: Academic Search Premier, Academic One File, Cumulative Index to Nursing and Allied Health, Cochrane Collaboration, Embase, Google Scholar, Informat, PsychArticles, PsychInfo, PubMed, Scopus and Web of Knowledge. Articles were included in the review if they investigated ‘continuity’ in treatment seeking samples, which included a proportion of patients with comorbidity. No limits were set on methodological design, treatment intervention or treatment setting. The search was restricted to articles published in English after 1980. In order to concentrate on articles that had made efforts to apply and assess CoC in treatment, some methodological limits were also set to exclude articles that contained non-original data, sample sizes less than 10 and only qualitative analysis.

To enhance accuracy in the selection of articles, a second reviewer (CGB) was appointed to independently review 20% of full-text articles ($n=54$ articles) according to inclusion criteria. The second reviewer allocated five of 54 articles to be included in the review. All but one study agreed with the results of the primary reviewer. The two reviewers discussed the agreement of findings and it was decided that this study was to be excluded, as it did not define CoC. Data on study origin, methodological design, sample size, patient characteristics and CoC were extracted for each included study and the data was double checked for accuracy by the second reviewer.

All articles were assessed according to six quality criteria to determine the potential risk of bias in methodological approaches chosen. These criteria were chosen to reflect existing recommendations provided by Higgins & Green (2009). The criteria were (a) study design (according to the level of evidence hierarchy (Ho, Peterson, & Masoudi, 2008; NHMRC, 2000)), (b) sample size (power calculations mentioned), (c) assessment of CoC (single vs. multiple assessment points), (d) measurement of CoC (used a standardised vs. non-standardised measure) and stringency of patient diagnoses (use of diagnostic criteria for (e) mental disorder and (f) substance use disorder).

Results

Description of included studies

Initial searches yielded 2,899 articles after the deletion of duplications. These were then screened based on title and abstract information (Figure 6). A total of 274 articles were eligible for full-text review after the inclusion of 13 studies identified from the follow-up search. Examination of full-texts yielded 18 studies that met the inclusion criteria (Table 1). Studies used prospective cohort ($n=8$), retrospective cohort ($n=8$) and quasi-experimental research designs ($n=2$). Study sample sizes ranged from 112 to 181,651; with a total number of 199,442 participants. In the majority of studies (15/18), patients were predominately male (51-98% male). The overall mean age of patients was 41.5 years (SD= 5.6). Patients studied varied in their predominant disorder, 10 studies investigated patients with a primary substance use disorder, 5 investigated a primary mental health disorder and 3 studies specifically examined only patients with comorbidity. The most common substance patients were seeking treatment for were alcohol or cocaine. Other drugs of dependence and/or abuse included heroin, cannabis and methamphetamine. Patients varied on their presenting mental

disorder diagnosis. Disorders included: mood, anxiety, psychotic, schizophrenia and post traumatic-stress.

The risk of bias assessment revealed that no study met all six quality criteria. One study (Termorshuizen et al., 2012) met 5/6 criteria, five studies met 4/6 criteria, seven met 3/6 criteria, and four studies met only 2/6 criteria (Claus et al., 2007; Greenberg & Rosenheck, 2005; Stahler et al., 2007; Swindle, Phibbs, Paradise, Recine, & Moos, 1995). All studies provided a definition of CoC and all but one study provided information on the measurement of CoC (Morgenstern, Hogue, Dauber, Dasaro, & McKay, 2009). This study was therefore not included in the risk of bias assessment. Studies are ranked according to methodological quality in Table 1.

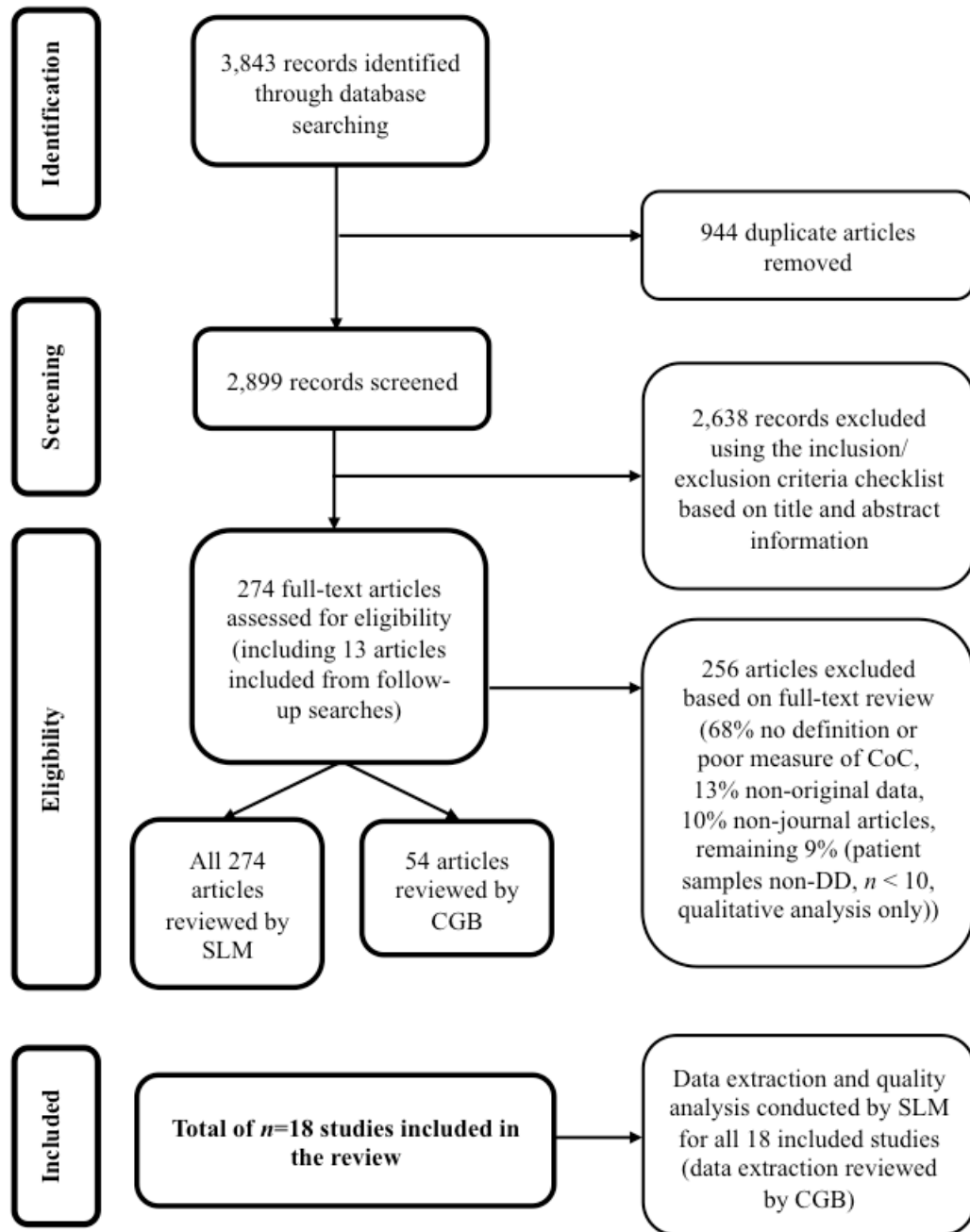


Figure 6. Systematic search procedure according to the PRISMA statement

From: Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G The PRISMA Group (2009).

Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement.

Annals of Internal Medicine, 151, 264-270.

Table 1. Overview of studies who investigated continuity of care (CoC) in treatment of comorbidity ($n=18$)

Study details	Patient sample characteristics	Primary diagnosis	Secondary diagnosis	Sample size (n)	Treatment setting and time-in-treatment CoC applied	CoC IV or DV	Types of continuity applied
Termorshuizen et al., (2012), Netherland	78.9% Male Age: $M=33.9$, $SD=10.1$ 65.2% Dutch ethnicity	SUD Any addiction or substance related problem (99.5%) cocaine (76.1%), heroin (65.1%), alcohol (57%), cannabis (54.9%) ¹	MHD Any Axis I, II disorders or delayed diagnosis (80.1%), any Axis I disorder (72.8%), psychotic disorder (52.4%), any Axis II disorder (39%), Cluster B Axis II disorder (27.7%) ¹	616	Admission to hospital, discharge from hospital to outpatient treatment, re-admission to hospital applied	IV	Continuity as intensity and regularity of care ^(O) Continuity through transfer ^(O)
Adair et al., (2005), Canada	40% Male Age: $M=42.5$, $SD=10$ 90% Non-minority ethnicity	MHD Psychotic disorders (35%), Mood disorders (65%) ²	SUD Type not specified (31%) ²	411	Admission to inpatient/outpatient/ emergency department/ community mental health clinic and 17-month follow- up	IV	Continuity of relationship ^(Pa) Continuity across services ^(O&Pa) Continuity as responsive to changing patient needs ^(O&Pa)
Harris et al., (2009), USA	91.7% Male Age: $M=47.6$, $SD=8.7$ 49.7% Non-Hispanic white ethnicity	SUD Alcohol dependence/abuse (84.6%) ³ and drug dependence/abuse (66.5%) ³ , cocaine dependence (35.5%) ³ , opioid dependence (9.5%) ⁴ , alcohol problems ($M=0.41$; $SD=0.28$) ⁵ , drug problems ($M=0.19$; $SD=0.16$) ⁵	MHD Schizophrenia (7.1%) ³ , Bipolar disorder (9.0%) ³ , Major Depressive Disorder (13.7%) ³ , PTSD (16%) ⁴ , psychiatric problems ($M=0.38$; $SD=0.256$) ⁶	1,850	Admission to substance abuse outpatient treatment service <i>or</i> discharge from inpatient/residential substance abuse treatment to outpatient substance abuse treatment	IV	Continuity as intensity and regularity of care ^(O) Continuity through transfer ^(O)

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Schaefer et al., (2005), USA	98% Male Age: M=47, SD=8 52% Caucasian ethnicity	SUD Alcohol and drug use disorders (72%), alcohol use disorder (19%), drug use disorder (8%) ⁷	MHD Dually diagnosed with psychiatric disorder (36%) ⁸	878	Discharge from inpatient/ residential substance abuse treatment to outpatient substance abuse treatment <i>or</i> discharge from intensive outpatient treatment to less-intensive outpatient treatment	IV	Continuity of relationship ^(Pⁿ) ----- Continuity across services ^(Pⁿ) ----- Continuity through transfer ^(Pⁿ)
Schaefer et al., (2011), USA	98% Male Age: M=47.22, SD=7.79 52% Caucasian ethnicity	SUD Substance use disorders (100%) ⁷	MHD High psychiatric severity (19.7%), low-moderate psychiatric severity (80.3%) ⁶	865	Discharge from inpatient/ residential substance abuse treatment to outpatient substance abuse treatment	IV	Continuity of relationship ^(Pⁿ) ----- Continuity across services ^(Pⁿ) ----- Continuity through transfer ^(Pⁿ)
Stahler et al., (2009), USA	53% Male Age: M=38(18-67) 62% African American ethnicity	SUD Cocaine (61%), Cannabis (37%), Opioids (12%) ⁹	MHD Depression (36%), Schizophrenia (17%), ⁹ Bipolar disorder (16%) ⁹	380	Discharge from an acute inpatient unit to outpatient treatment	DV	Continuity as successful linkage of the patient ^(O)
Dewa et al., (2009), Canada	55.4% Male Age: M=41.9, SD=12.6 44.6% Non-Caucasian ethnicity	MHD Depression (31.8%), Schizophrenia-related disorder/psychosis (33.6%), Bipolar (20.6%) ³	SUD Any substance use problem (37%), alcohol use problem (43.9%), illicit drug use problem (23.6%) ¹⁰	112	Discharge from psychiatric inpatient hospital/crisis service to primary care treatment	DV	Continuity as successful linkage of the patient ^(O)
Ford et al., (2010), USA	62% Male Age: M=38 65% Caucasian ethnicity	SUD Alcohol dependent (46%), heroin dependent (40%), other opiates (8%) ⁸	MHD Psychiatric disorder (42%) ⁸	116	Admission of inpatient substance abuse detoxification to completion of follow-up treatment	IV	Continuity of relationship ^(O) ----- Continuity through transfer ^(O)

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Fortney et al., (2003), USA	49-83% Male Age: M(SD)=41(16)-43(29) 42%-59% African American ethnicity	MHD Schizophrenia diagnosis (41%-44.6%) ¹¹	SUD Substance abuse (13%-34%) ¹²	261	Outpatient mental health service utilisation from 2 years prior to interview point	DV	Continuity of relationship ^(O) ----- Continuity across services ^(O) ----- Continuity as intensity and regularity of care ^(O)
Gotor et al., (2004), Spain	46.9% Male Age: M=35.2 CI=33.6-36.8 66% Spanish ethnicity	MHD Schizophrenia and paranoid psychosis (45.7%), affective psychosis (24%) ⁸	SUD Alcohol and substance abuse (8.6%) ⁸	175	Discharge from psychiatric hospital to outpatient treatment	DV	Continuity as successful linkage of the patient ^(O)
Greenberg et al., (2002), USA	55% Male Age: M=42.1, SD=7.02 50.6% African American ethnicity	SUD Alcohol Dependence (85.1%) ³ and drug dependence (70%) ³ , alcohol problems (M=0.276; SD=0.253) ⁵ , drug problems (M=0.168; SD=0.179) ⁵	MHD Schizophrenia (2.04%) ³ , PTSD (M=0.0851; SD=0.279) ³ , lifetime suicide attempt (28.9%) ³ , psychiatric problems (M=0.208; SD=0.216) ⁶ , psychological distress (M=0.717; SD=0.596) ¹³	1,576	Discharge from residential substance abuse treatment to outpatient substance abuse treatment and 3-month follow-up	IV	Continuity of relationship ^(O) ----- Continuity as intensity and regularity of care ^(O) ----- Continuity through transfer ^(O)
Greenberg et al., (2004), USA	0% Male Age: M=42.1, SD=10.5 60.4% Caucasian ethnicity	MHD PTSD (M=3.17; SD=7.65) ¹⁴ , (M=12.6; SD=4.58) ¹⁵ , lifetime suicide attempt (51%) ³	SUD Alcohol abuse and/or dependence (13.4%) ³ , drug abuse and/or dependence (10.1%) ³ , alcohol problems (M=0.0884; SD=0.1813) ⁵ , drug problems (M=.0343; SD=(.0918) ³	149	Admission to outpatient mental health treatment and 4 month follow-up	IV	Continuity of relationship ^(O) ----- Continuity as intensity and regularity of care ^(O)

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Schaefer et al., (2008), USA	98% Male Age: M=47, SD=7.9 51% Caucasian	SUD Alcohol and drug use disorders (82%), alcohol use disorder (13%), drug use disorder (4%) ⁷	MHD Dually diagnosed with psychiatric disorder (32%) ⁸	429	Discharge from intensive outpatient treatment to less-intensive outpatient treatment	IV	Continuity of relationship ^(R) Continuity across services ^(R) Continuity through transfer ^(R?)
Claus et al., (2007), USA	0% Male Age: M(SD)=29.4 (6.4)-34.2 (7.7), 67.9%-74.4% Caucasian ethnicity	SUD Alcohol use (68.4-76.1%), Cocaine (56.2-59.3%), Marijuana (36.7%-53.4%) ³	Previous mental health treatment (26.1-45.6%), taking psychiatric medications (14.9-28.1%) ³	1,570	Discharge from residential substance abuse treatment to outpatient treatment	DV	Continuity as successful linkage of the patient ^(O)
Greenberg et al., (2005), USA	92.5-93.4% Male Age: 51.4 (SD=10.4)-56.1 (SD=11.97) 14.6-28.9% African American ethnicity	SUD Alcohol dependence or abuse (17.5-56.9%) drug dependence or abuse (14-50.1%) ³	MHD Dysthymia (40.9-55.2%), PTSD (29.9-37.8%), Major depression (27.7-35%) ³	181,651	Discharge from inpatient VA medical centres to outpatient substance abuse treatment, and 6 months	IV	Continuity as intensity and regularity of care ^(O) Continuity through transfer ^(O)
Stahler et al., (2007), USA	57% Males Age: 19-66 African American ethnicity	SUD Cocaine (55%), Cannabis (32%), Heroin (17%) ¹⁶	MHD Major depression (26%), substance-induced mood disorder (22%), Bipolar disorder (15%) ⁸	271	Discharge from an acute psychiatric unit in hospital to outpatient treatment	DV	Continuity as successful linkage of the patient ^(O)
Swindle et al., (1995), USA	70-73% Male Age: 18-54 51% African American ethnicity	SUD Cocaine dependence (21%-49%) ³ , alcoholism (82%-93%) ³	MHD MHD Schizophrenia (17%-48%) ³ , depression (28%-40%) ² , PTSD (14%-25%) ³	7,711	Discharge from inpatient substance abuse programs to outpatient treatment	IV	Continuity of relationship ^(O) Continuity through transfer ^(O)

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Morgenstern et al., (2009), USA	66 % Male Age: M= 39.6, SD= 8.5	SUD	MHD	421	Public assistance beneficiaries/ welfare setting	X	Continuity across services
American ethnicity	Substance use disorder (78%) ² (main drugs cocaine & heroin), alcohol dependence (36%) ² , alcohol abuse (10%) ² , alcohol problems	Depressive disorder (23%) ² , anxiety disorder (22%) ² , anti-social personality disorder (25%) ²					Continuity through transfer
	M(SD)=0.18(0.23)-0.22(0.26) ⁵ drug problems						Continuity through transfer
	M(SD)=0.15(0.13)-0.16(0.14) ⁵						

O = Organisational perspective of care; Pr = Providers perspective of care; Pa = Patient perspective of care; SUD = Substance use disorder; MHD = Mental health disorder; PTSD = Post traumatic stress disorder

- 1 Diagnostic and Statistical Manual 4th Edition (DSM-IV)
- 2 MINI International Neuropsychiatric Interview (MINI)
- 3 Patient records
- 4 Addiction Severity Index (ASI) and medical records
- 5 Addiction Severity Index (ASI) [range 0-1]
- 6 Addiction Severity Index- Psychiatric (ASI-P) [range 0-1]
- 7 International Classification of Diseases 9th Edition (ICD-9th)
- 8 Instrument not specified
- 9 Diagnostic and Statistical Manual 4th Edition- Test Revised (DSM-IV-TR)
- 10 Alcohol Use Disorder Identification Test (AUDIT)
- 11 Composite International Diagnostic Interview (CIDI)
- 12 Composite International Diagnostic Interview, University of Michigan version (UM-CIDI)
- 13 Global Severity Index (GSI) from the Brief Symptom Inventory (BSI) [range 0-1]
- 14 Short Form of the Mississippi Scale for Combat-Related PTSD [range 11-55]
- 15 The Northeast Program Evaluation Centre PTSD Scale [range 4-20]
- 16 Positive urine screens for drugs

Interpretation of included studies

Results from the systematic search procedure revealed that the meaning and application of CoC was inconsistent across studies. Even in circumstances where some consistency was identified, there were large discrepancies in methodological design, treatment setting, time-in-treatment CoC was assessed and presenting patient disorder. Considering that the aim of a systematic review is to determine the efficacy or impact of a consistent construct amongst coherently designed studies (Petticrew & Roberts 2006), it was therefore considered unsuitable to undertake for the present review. Rather, the authors identified a preliminary need to consolidate the meaning and definition of CoC in the treatment of patients with comorbidity, as a prelude to examining the impact of CoC. To achieve this a narrative synthesis of findings was undertaken.

In order to consolidate the meaning and definition of CoC, recommendations by Arksey & O'Malley (2005) were followed. This involved the use of data charting forms where information from included studies (including qualitative CoC definitions) were entered into Microsoft Word tables (Arksey & O'Malley, 2005). Inspection of the multidimensional CoC definitions revealed several shared features: reference to more than one aspect of care, practices that are implemented in treatment and emphasis on the ongoing and linked nature of treatment(s). However, discrepancies in the terminology used and descriptions of continuity practices were found, resulting in a large variety of continuity terms. Therefore, the technique of 'charting' proposed by Ritchie & Spencer (2002) was employed to identify shared themes, key issues and core principles amongst the range of CoC definitions. Results from charting identified six core types of continuity and are reported using a narrative account (Arksey & O'Malley). This approach then identified some consistency in the meaning, application and measurement of CoC, which allowed for a synthesis of some CoC data. Data was synthesised only in some studies that assessed *continuity of the relationship* and *CoC as successful*

linkage of the patient. Similarly, a synthesis of two studies that employed overall composite measures of continuity which included a range of continuity types was also conducted (Adair et al., 2005; Schaefer, Cronkite, & Hu, 2011).

How CoC was understood, applied and assessed in the treatment of comorbidity

Analysis of the CoC definitions revealed two schools of thought. Firstly, CoC was understood as a one-dimensional outcome measure referring to *the successful linkage of a patient* from one level of care to another. Secondly, CoC was understood as an overarching construct referring to a *multidimensional series of care practices* implemented during treatment. Table 2 and Table 3 provide an outline of how CoC was understood, applied and assessed in the treatment of comorbidity.

CoC as successful linkage of a patient from one level of care to another

A total of five studies interpreted CoC as a one-dimensional outcome measure relating to the successful transfer of patients from intensive treatment to less intensive care (Claus et al., 2007; Dewa, Tugg, Stergiopoulos, & Ghavam-Rassoul, 2012; Gotor & Gonzalez-Juarez, 2004; Stahler et al., 2007; Stahler, Mennis, Cotlar, & Baron, 2009). Intensive treatment settings included inpatient hospital and residential treatment, and forms of less-intensive treatment included outpatient and primary care appointments. Across all studies, CoC was assessed from the organisational perspective using administrative patient service use data. Each study assessed whether the patient enrolled or attended their less-intensive treatment appointment within 30-days of discharge. The CoC variable was dichotomised: CoC was either achieved or not.

Table 2. The application and implementation of continuity of care (CoC) in the treatment of comorbidity.

<u>CoC as successful linkage</u>	<u>CoC as a multidimensional series of practices</u>				
X	Type of continuity	Synonyms provided	Underlying meaning	Application within one level of care	Application in the transfer of patient care
Continuity of the relationship between patient and provider(s)	stability of the relationship, provider continuity, sustained contact, relationship based and provider consistency.	the extent that patients consistently engage with the same provider/provider team whilst receiving treatment	ensuring that the patient consistently engages with the same single provider or single providing team during treatment, by scheduling all appointments and visits with the same provider(s)	ensuring that less-intensive follow-up treatment appointments/visits are scheduled with the same provider(s) that provided intensive treatment	
Continuity across services	comprehensiveness of services, coordination of care, case-management, system fragmentation and connecting to resources	the management of various services that are involved in the patients care	ensuring that all providers and services involved in the patients care are identified and work together to provide a collaborative treatment approach, through regular communication and referral	ensuring that intensive treatment staff refer patients to ongoing services and resources and communicate regularly with those services to jointly develop ongoing suitable treatment approaches	
Continuity as regularity and intensity of care	quantity and frequency of care	the amount of treatment received within one level of care and whether treatment was consistent over time	ensuring that the patient receives regular and consistent treatment appointments/visits by scheduling a series of patient appointments/visits which are evenly distributed over time	X	

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Continuity through transfer	continuity across organisational boundaries, maintain contact and aftercare	the linkage of a patient from one level of care to another	X	ensuring that the patient is equipped to continue treatment after discharge from intensive treatment, through regular prompts and contact with the patient before and after less-intensive treatment appointment
Continuity as responsive to changing patient needs		the extent to which the treatment approach is adjusted according to patient needs		ensuring that both providers and treatment approach are flexible by regularly assessing patient treatment needs and adapting the treatment approach accordingly

X: this type of continuity was not applied or implemented in treatment

Table 3. Existing measures of continuity of care (CoC) in the treatment of comorbidity.

CoC as successful linkage of patient care	CoC as a multidimensional series of practices	
	Assessment within one level of care	Assessment in the transfer of patient care
Continuity of the relationship between patient and provider(s)	<p>O</p> <ul style="list-style-type: none"> ➤ Modified Continuity Index (MCI) (Fortney et al., 2003 & Greenberg 2002, 2004) ➤ Continuity of Care Index (CoC Index) (Greenberg 2002, 2004) 	<ul style="list-style-type: none"> ➤ The percentage of patients receiving aftercare from same staff member that provided inpatient care (Swindle et al., 1995)
	<p>Pr</p> <p style="text-align: center;">X</p>	<ul style="list-style-type: none"> ➤ Provider continuity subscale of the Continuity of Care Practices Survey (CCPS-I) (alpha = 0.35). Example item: “will most of patients’ continuing care be provided by the same person who served as patients primary counsellor/case manager during intensive treatment?” (Schaefer et al., 2005, 2008 & 2011).
	<p>Pa</p> <ul style="list-style-type: none"> ➤ Relationship based subscale of the Alberta Continuity of Services Scale for Mental Health (ACSS-MH). Example item: “I am not treated like an individual in services” (Adair et al., 2005). ➤ The total number of types of services received during treatment (Fortney et al., 2003) ➤ Receipt of case-management services during treatment (Fortney et al., 2003) 	<p style="text-align: center;">X</p>
	<p>O</p> <ul style="list-style-type: none"> ➤ Service information subscale of the observer-rated ACSS-MH. Example item: “Indicate the level of involvement in community-based interventions (i.e. none, some, irregular, regular)” (Adair et al., 2005). 	<p style="text-align: center;">X</p>
	<p>Pr</p> <p style="text-align: center;">X</p> <hr/> <ul style="list-style-type: none"> ➤ Connect to resources subscale of the CCPS-I (alpha = 0.67). Example item: “whether staff arranged for the patient to attend an Alcoholics Anonymous, Narcotics Anonymous or Cocaine Anonymous meeting in his or her community during intensive treatment?” (Schaefer et al., 2005, 2008 & 2011). ➤ Coordinate care subscale of the CCPS-I (alpha = 0.84). Example item: “whether staff before discharge connect to resources subscale of the CCPS-I” 	<ul style="list-style-type: none"> ➤ Connect to resources subscale of the CCPS-I (alpha = 0.67). Example item: “whether staff arranged for the patient to attend an Alcoholics Anonymous, Narcotics Anonymous or Cocaine Anonymous meeting in his or her community during intensive treatment?” (Schaefer et al., 2005 2008 & 2011)
	<p>Pr</p> <p style="text-align: center;">X</p>	

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Pa	<ul style="list-style-type: none"> ➤ System fragmentation subscale of the ACSS-MH. Example item: "I have to deal with a confusing number of agencies and programs" (Adair et al., 2005). ➤ The total number of treatment visits the patient had during treatment (Fortney et al., 2003; Greenberg et al., 2005; Temorshuizen et al., 2012) 	X
Continuity as regularity and intensity of care	<p>O</p> <ul style="list-style-type: none"> ➤ The number of successive months of treatment the patient received [the treatment target e.g. at least 1 or 2 visit] (Greenberg et al., 2002, 2004, 2005 & Harris et al., 2009) ➤ The duration of temporal gaps in service use throughout treatment (Fortney et al., 2003) 	X
Pr	X	X
Pa	X	X
O	X	<ul style="list-style-type: none"> ➤ Did the patient receive any less-intensive treatment after discharge from intensive treatment? (Greenberg et al., 2002; 2005) ➤ Did the patient receive [treatment target] in successive months following discharge from intensive treatment? (Harris et al., 2009; Swindle et al., 1995) ➤ What proportion/ percentage of the sample transitioned to less-intensive treatment? (Ford et al., 2010; Swindle et al., 1995)
Continuity through transfer	Pr	X
Pr	X	<ul style="list-style-type: none"> ➤ Maintain contact subscale of the CCPS-1 (alpha = 0.82). Example item: "how likely is it that staff will call the patient within 14-days of discharge to find out is he or she has contact services to which they have been referred?" (Schaefer et al., 2005, 2008 & 2011).
Pa	X	X

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Continuity as responsive to changing patient needs	O	➤ Need information/treatment gaps subscale of the observer rated ACSS-MH. Example item: “the number of approximate 30-day periods without primary provider contact when is was apparently needed have been (i.e. 5, 3-5, 1-2, 0 gaps)” (Adair et al., 2005).	X
	Pr	X	X
	Pa	Treatment responsiveness subscale of the patient-rated ACSS-MH. Example item: “My care doesn’t change when my needs change” (Adair et al., 2005).	X

O = Organisational perspective of care; *Pr* = Providers perspective of care; *Pa* = Patient perspective of care; X = this type of continuity was not assessed from this perspective of care in contributing studies

CoC as a multidimensional series of practices.

Most contributing studies ($n=13$) considered CoC as an overarching construct covering different aspects of care (Adair et al., 2005; Ford & Zarate, 2010; Fortney et al., 2003; Greenberg et al., 2004; Greenberg & Rosenheck, 2005; Greenberg, Rosenheck, & Seibyl, 2002; Harris, Humphreys, Bowe, Kivlahan, & Finney, 2009; Morgenstern et al., 2009; Schaefer et al., 2011; Schaefer, Harris, Cronkite, & Turrubiarres, 2008; Schaefer, Ingudomnukul, Harris, & Cronkite, 2005; Swindle et al., 1995; Termorshuizen et al., 2012). An example of a multidimensional CoC definition included: “ a *complex multidimensional process that occurs at the interfaces of multiple services in the trajectory of a patients’ care, according to changing needs*” (Adair et al., 2005, pg. 1061).

Continuity of the relationship between the patient and provider(s). A total of 8 studies investigated the common element of *continuity of the relationship between the patient and provider(s)* (Adair et al., 2005; Ford & Zarate, 2010; Fortney et al., 2003; Greenberg et al., 2004; Greenberg et al., 2002; Schaefer et al., 2011; Schaefer et al., 2008; Schaefer et al., 2005). The way in which *continuity of the relationship* was applied in treatment differed depending on the level of care patients received. In the studies conducted by Fortney et al., (2003) and Greenberg (2002 & 2004) *continuity* referred to level of contact within two time points of an outpatient treatment episode. However, in the studies conducted by Schaefer et al., (2005, 2008 & 2011) and Swindle et al., (1995), *continuity* focussed on whether the clinician who provided intensive treatment also provided the patient’s less-intensive treatment.

A number of methods to assess *continuity of the relationship* were identified; however, the utility of these methods were shown to depend on the time-in-treatment continuity was assessed and the perspective of care under investigation. The Modified

Continuity Index (MCI) and Continuity of Care Index (CoC Index) assessed continuity within one level of patient care. These indices assessed *continuity* from an organisational perspective using administrative patient service use data. Both the MCI and CoC Index are calculated using the total number of treatment visits and the number providers/provider teams involved in treatment. Unlike the MCI, the CoC Index also accounts for the distribution of visits over time. Adair et al., (2005) provided an assessment of the patient perspective of *continuity of the relationship* within one episode of care, using the ‘relationship based’ subscale of the Alberta Continuity of Services Scale for Mental Health (ACSS-MH). Items within this ACSS-MH focus on the patient view of the interpersonal quality of the relationship.

Continuity of the relationship was also investigated in the transfer of patient care. Swindle et al., (1995) assessed this from an organisation perspective and calculated the “percentage of patients receiving aftercare from the same staff member that provided inpatient care”. In the studies conducted by Schaefer et al., (2005, 2008 & 2011) *continuity* was assessed from the provider’s perspective, using the ‘provider continuity’ subscale of the Continuity of Care Practices Survey (CCPS-I). Providers were asked to indicate the practices they had implemented or expected to implement after a patient is discharged from treatment.

Continuity across services. Six studies considered *continuity across services* as a core component of CoC (Adair et al., 2005; Fortney et al., 2003; Morgenstern et al., 2009; Schaefer et al., 2011; Schaefer et al., 2008; Schaefer et al., 2005). Methods to apply *continuity across services* differed depending on the level of care under investigation (within one level of care or in the transfer of care). In both circumstances, providing *continuity* involved the identification of all clinicians/services involved in the patient’s care. When applied within one-level of care, providers were required to collaboratively work together

through regular communication and referrals to implement a congruent treatment approach. When applied in the transfer of a patient's care, providers were required to identify and connect patients to services that would provide ongoing care after discharge.

Contributing studies examined *continuity across services* using a range of methods. The studies conducted by Morgenstern et al., (2009) and Fortney et al., (2003) stated that *continuity across services* was simply achieved through coordinated case management of services. Fortney et al., (2003) assessed this from the organisational perspective using administrative service use data and dichotomised whether patients received any case-management services throughout their treatment. Similarly, Fortney et al., (2003) calculated the total number of services involved in the patient's care. Adair et al., (2005) assessed *continuity across services* using the 'service information' subscale of the ACSS-MH, which used patient record data to determine the level of patient involvement in community-based interventions. The 'system fragmentation' subscale of the ACSS-MH assessed patient experiences of ease when receiving treatment from a number of services (Adair et al., 2005).

In the studies conducted by Schaefer et al., (2005, 2008 & 2011), *continuity across services* was investigated through the transfer of patient care from intensive to less-intensive care. Staff were asked to indicate the coordination practices they had used or expected to use in the process of transferring patients to outpatient treatment ('coordinate care' and 'connect to resources' subscales of the CCPS-I). These scales assessed inpatient providers' level of communication with outpatient staff to collaboratively develop ongoing treatment plans for the patient. Similarly, efforts to refer patients to different services that would meet their ongoing needs after discharge were assessed.

Continuity as regularity and intensity of care. *Continuity as regularity and intensity of care* was considered a critical component of CoC in six contributing studies (Fortney et al.,

2003; Greenberg et al., 2004; Greenberg & Rosenheck, 2005; Greenberg et al., 2002; Harris et al., 2009; Termorshuizen et al., 2012). All studies assessed this from the organisational perspective, using administrative outpatient service use data. Patients had either commenced a new outpatient treatment episode or entered outpatient treatment as a follow-up to intensive treatment. Methods to operationalise *continuity as regularity and intensity of care* varied across studies. Fortney et al., (2003) and Greenberg & Rosenheck (2005) simply calculated the total number of outpatient visits the patient received between two time-points within the outpatient treatment episode. Similarly, Termorshuizen et al., (2012) calculated the number of days the patient actually attended outpatient appointments in relation to all scheduled appointments. Termorshuizen et al., (2012) also assessed treatment intensity by calculating the number of face-to-face contacts per recorded outpatient day. Remaining studies used measures that incorporated the even spread of visits over time. To achieve this, studies used monthly performance cut-offs such as the number of successive months after outpatient admission where the patient attended a least one or two treatment appointments. In the study by Fortney et al., (2003) the intensity and regularity of care was calculated by the duration of temporal gaps in service use in the previous year.

Continuity through transfer. *Continuity through transfer* of patient care was identified as a critical component of CoC in ten studies (Ford & Zarate, 2010; Greenberg & Rosenheck, 2005; Greenberg et al., 2002; Harris et al., 2009; Morgenstern et al., 2009; Schaefer et al., 2011; Schaefer et al., 2008; Schaefer et al., 2005; Swindle et al., 1995; Termorshuizen et al., 2012). Majority of studies assessed *continuity through transfer* from the organisational perspective using administrative patient service use data. Unlike those studies that operationalised CoC as a single outcome measure, studies that assessed *continuity through transfer* within a multidimensional context focused on the provider(s)/service(s)

effort to make treatment available to the patient, rather than patient efforts to attend treatment. Four studies assessed *continuity* at the individual patient-level as whether the patient received any treatment within the first 30 days or three months of discharge. Similarly, Harris et al., (2009) calculated if the patient received at least two outpatient visits in each of the three months following discharge. Ford & Zarate (2010) and Swindle et al., (1995) assessed continuity at the treatment-sample level, for example “What proportion of patients transition to follow-up treatment?” Schaefer et al., (2005, 2008 & 2011) examined *continuity* from the providers’ perspective which assessed providers’ level of involvement in the process of transfer of care, using the ‘maintain contact’ subscale of the CCPS-I.

Continuity as responsive to changing patient needs. One study considered *continuity as responsive to changing patient needs* as a critical component of CoC. In the study by Adair et al., (2005) this form of continuity was assessed from both an organisational and patient perspective. Adair et al., (2005) used the ‘treatment responsiveness’ subscale of the ACSS-MH to assess the patient perspective where items assessed the opinions of treatment flexibility. Similarly, the ‘need information/treatment gaps’ subscale of the observer-rated ACSS-MH assessed from the organisation perspective using patient record data.

Patient characteristics associated with CoC in the treatment of comorbidity.

A number of significant patient related associations were found across studies that investigated CoC as the *successful transfer of patient care*. Patients who had previous experience with mental health treatment were more likely to achieve CoC (Stahler et al., 2007) compared to patients with no previous treatment experience (Gotor & Gonzalez-Juarez, 2004). The type of mental health disorder diagnosis was also shown to impact on CoC across studies. Patients with a diagnosis of depression were more likely to successfully

transfer to ongoing care (Dewa et al., 2012); whereas diagnoses of schizophrenia (Dewa et al., 2012), personality disorder (Gotor & Gonzalez-Juarez, 2004), substance-induced mood disorder (Stahler et al., 2007) or chief complaint of bizarre behaviour (Stahler et al., 2007; 2009) were associated with breakdowns in CoC. Similarly, patients with opioid/heroin problems were less likely to achieve CoC in treatment (Stahler et al., 2007; 2009).

Amongst studies that employed the CoC Index and MCI to assess *continuity of the relationship*, several patient characteristics were found to impact on continuity. Older age was consistently shown to be associated with enhanced *continuity of the relationship* according to the CoC Index ($p = .03$) and MCI ($p = .04$) (Greenberg et al., 2002) and in the study conducted by Fortney et al., (2003) ($p = .02$). Conversely, being homeless compared to housed (Cohen's $d = 0.9$, $p < .01$) was associated with poorer *continuity of the relationship* in the study by Fortney et al., (2003). Poor *continuity of the relationship*, as measured by the CoC Index ($p = .02$) and MCI ($p = .03$) was also associated with having medical problems (Greenberg et al., 2004). African American ethnicity was associated with poorer *continuity of the relationship* according to the CoC Index ($p = .04$) and MCI ($p = .05$) (Greenberg et al., 2004). In the study conducted by Adair et al., (2005), a diagnosis of psychosis was associated with improved CoC on both the patient (Cohen's $d = 0.18$, $p < .01$) and observer (Cohen's $d = 0.65$, $p < .001$) composite instruments. Similarly, low problem severity was related to higher CoC on both patient (Cohen's $d = 0.57$, $p < .001$) and observer rated (Cohen's $d = 0.66$, $p < .001$) scales (Adair et al., 2005).

Two studies reported that patients with comorbidity experienced significantly less CoC in treatment when compared to patients with only mental illness. Adair et al., (2005) found patients with comorbid substance use experienced significantly less CoC than patients with only mental illness, on both patient-rated (Cohen's $d = 0.32$, $p < .01$) and observer-rated (Cohen's $d = 0.50$, $p < .001$) scales. Similarly, Fortney et al., (2003) reported that patients with

comorbid substance use received a significantly less number of different types of mental health treatment, when compared to patients with only mental illness ($p = .02$). However, two studies found that the presence of a comorbid disorder had no effect on CoC in a mental health setting (Dewa et al., 2012) and substance abuse setting (Schaefer et al., 2011). Results from these studies should be interpreted with caution, as the measurement of CoC was inconsistent across studies.

Are improvements to CoC associated with positive outcomes?

Studies that employed the CoC Index and MCI to assess *continuity of the relationship* reported significant associations with positive treatment outcomes. An increase to *continuity of the relationship* was shown to improve patient commitment to treatment and reduce patient violent behaviour on both the CoC Index ($p < .01$) and MCI ($p < .001$) (Greenberg et al., 2004). Improved continuity was associated with improved service satisfaction ($p < .001$), generic ($p < .01$) and disease-specific quality of life ($p < .001$) and community functioning ($p < .001$) in the study conducted by Adair et al., (2005) and with patient engagement in continuing care ($p < .001$) (Schaefer et al., 2011). However, Schaefer et al., (2011) found no significant association between improved overall continuity and abstinence from alcohol/drugs at a six-month follow-up.

Discussion

Summary of findings

Here a summary of how CoC has been understood, applied and assessed in the comorbidity treatment literature to date is presented. This review identified minimal consistency in the measurement of CoC across studies. Where consistency was detected, results suggested that

patients at risk of poor CoC are those without previous treatment experience and those with a diagnosis of schizophrenia, personality disorder, substance-induced mood disorder, bizarre behaviour or heroin/opioid addiction. Similarly, patients at risk of poor continuity of the relationship with provider were homeless, had additional medical problems and were of African American ethnicity. There was some evidence that CoC improved patient commitment, satisfaction and engagement with treatment and improved patient quality of life and community functioning. This review identified that previous studies consider continuity in the treatment of comorbidity as: *continuity of the relationship, continuity across services, continuity as regularity and intensity of care, continuity through transfer, continuity as responsive to changing patient needs* and *successful linkage of the patient*. Information on how previous studies have implemented and assessed CoC in the treatment of comorbidity are outlined, sensitive to time-in-treatment and perspective of care.

Considerations and recommendations for how to conceptualise, apply and assess CoC in the treatment of comorbidity

Findings from this review highlight the importance of CoC for patients with comorbidity in treatment; and how the CoC needs of the patient with comorbidity differ from the patient with a single disorder. The major obstacle facing CoC in the treatment of comorbidity, when compared to other treatment populations includes the challenges associated with the characteristics of the patient group. Patients with comorbidity are more likely to present to treatment with variable motivation for change (Penberthy et al., 2011), limited insight of disorder impact (Crawford, Crome, & Clancy, 2003), cognitive impairment (Blume, Davis, & Schmaling, 1999) and fears of being stigmatised (Keyes et al., 2010), which negatively impact on the quality of patient participation in treatment and thus CoC. Results from this review found that the meaning and application of CoC in the treatment of comorbidity more

so emphasises the ability and efforts of treatment service/providers to implement CoC practices, and places less responsibility on patient efforts to engage. This is dissimilar to the application of CoC in other treatment sectors such as diabetes management and primary care which focus on patient efforts to follow through with referrals and to visit the same physician over time (Hanninen, Takala, & Keianen-Kiukaanniemi, 2001).

Another obstacle facing CoC in the treatment of comorbidity is that unlike the patient with a single disorder, the patient with comorbidity requires treatment for both the mental disorder and SUD. This provides a challenge for the treatment of comorbidity providers as the majority of services use disease-specific treatments that are segregated from one another (Murthy & Chand, 2012). It is possible to propose which core CoC concepts are likely to be important in the treatment of comorbidity by applying the barriers to achieving CoC in different models of care. For example, in a sequential model of treatment, patients with comorbidity receive intensive SUD treatment, through inpatient stay, followed by less-intensive treatment of the mental disorder (NDARC, 2010). The main concept of CoC likely to be important in this model of care is *successful linkage of the patient* from intensive to less-intensive treatment, in the transfer of patient care. Other CoC aspects likely to be important in a sequential model of care include *continuity of the relationship*, *continuity across services* and *continuity through transfer* in the transfer of patient care i.e. contact with one clinician through inpatient to outpatient transfer, regular contact with the patient after discharge to remind of follow-up appointments, exchanging information between services and jointly developing ongoing treatment approaches between services.

A parallel approach to the treatment of comorbidity involves simultaneous treatment of the SUD and mental disorder from different clinicians/services using disease-specific treatments (NDARC, 2010). Challenges facing CoC in a parallel treatment approach include high patient treatment burden (Stewart & Conrod, 2008), inconsistent treatment priorities,

goals and approaches between different providers (Conrod & Stewart, 2005) and timely treatment of both disorders simultaneously (Staiger et al., 2011), due to breakdown in referrals. Thus, core CoC components likely to be important in a parallel the treatment of comorbidity approach might include *continuity of the relationship* between the patient and providers at both services and *continuity across services*, within one level of care i.e. scheduling regular appointments with each clinician from both services and regular communication between clinicians to enhance a consistent treatment approaches.

An integrated treatment approach involves the concurrent treatment of both disorders by the same clinician/service, where treatment explicitly targets the relationship between disorders and is tailored made to the patients' needs and motivation (Mills, Deady, Proudfoot, et al., 2010; Murthy & Chand, 2012; Stewart & Conrod, 2008). Integrated treatments are regarded as the optimal for approach for patients with comorbidity, as it minimises barriers to CoC such as *continuity across services* and through *transfer*. Despite the benefits of integrated treatment in enhancing CoC in the treatment of comorbidity, there is limited evidence for its efficacy to improve patient outcomes and its accessibility is limited (Murthy & Chand, 2012).

Accordingly, the core aspects of CoC likely to be important in the treatment of comorbidity differ depending on the model of care provided. By considering the barriers to CoC outlined above, there appears a requirement for: *continuity of the relationship*, *continuity across services*, *continuity as intensity and regularity*, *continuity through transfer* and *successful linkage of the patient*, across the treatment of comorbidity as a whole. It would appear that the construct of *responsiveness to patient need*, as assessed by Adair et al., (2005) might better reflect constructs such as satisfaction with treatment and not CoC.

Focussing solely on one aspect of CoC contains benefits in terms of convenience and cost-effectiveness. For example, researchers have proposed *successful transfer of the patient*

demonstrates high face validity for CoC in a sequential model to the treatment of comorbidity (Stahler et al., 2007; 2009). However, focussing solely on this aspect of CoC runs the risk of breakdowns in other mechanisms of CoC. For example, a patient might successfully transfer from an inpatient service to outpatient treatment, but there might be an insufficient exchange of information between services, which may expose the patient with comorbidity to fall through the cracks. Accordingly, the benefits of addressing more than one aspect of CoC (multidimensional), minimises the avenues of a breakdown in CoC for the patient with comorbidity.

Similarly, there are benefits in the use of administrative measures of CoC including: objectivity, cost-effectiveness and convenience (Fortney et al., 2003; Harris et al., 2009). In particular, administrative methods are useful in retrospective analyses of medical data, which are less demanding of resources and are a cost-effective method of assessment. However, retrospective and administrative measures are limited as they fail to assess the quality of CoC received. Thus, administrative methods have the potential to overvalue frequent but poor quality care and underestimate high quality care achieved in a small number of visits (Harris et al., 2009; Van Walraven et al., 2010). In addition, researchers must consider that the relationship between CoC and outcome measures is likely to be bidirectional (Van Walraven et al., 2010). For example, this review found that increased *continuity of the relationship*, as measured by administrative indices, was associated with an increase to patient illicit drug problems. However, it is likely that patients who experienced increased drug problems demonstrated increased treatment need and therefore required increases to *continuity of the relationship*.

Assessing CoC from the viewpoint of providers and/or patients offers a means to examine both the quantity and quality of care provided or received, which is considered most pivotal to achieving positive patient treatment outcomes (Bachrach, 1981; Tómasson &

Vaglun, 1998; Uijen et al., 2012). In addition, prospective research designs that continually monitor patient outcomes after treatment completion reduce the impact of outcomes affecting CoC data. However, these methods of research design and assessment require provider and patient time, resources and are expensive. Studies have shown staff in these treatment contexts are under increasing pressure with high workloads (Belling et al., 2011) which may limit the practicality of these designs. Similarly, focusing on the provider or patients perspective is also subject to error due to subjectivity bias, recall bias and patient cognitive impairment (Blume et al., 1999).

Implications

Previous authors state that the difficulties associated with understanding CoC in the treatment of complex conditions have led to CoC being “*repeatedly abandoned by research teams*” (Adair et al., 2005, 1061). This review of the literature aimed to rectify this issue by proposing which aspects of CoC are likely to be important in the treatment of comorbidity. This review outlines the critical aspects of CoC in the treatment of comorbidity and also provides information for how it is has been implemented and assessed in the literature to date. Findings from this review provide a means to achieve uniformity in the application and measurement of CoC, in both research and clinical practice. The next step is for high quality research using a standardised understanding of CoC to be conducted in order to investigate the effectiveness of CoC in treatment. Only when the implementation and assessment of CoC is consistent will we be able to validly determine if CoC is associated with improved outcomes after treatment for a patient with comorbidity.

Limitations of the review

The limitations of this review include the small number of studies identified as meeting the inclusion criteria. However, this reflects the lack of research available on CoC in patients with comorbidity. Whilst the limited number of studies may be attributable to the specificity of the search strategy and inclusion criteria, there does appear to be a lack of high-quality methodological studies available in this area. It would have been useful to also include a search of the grey literature in order to capture relevant information on the topic of CoC (i.e. treatment guidelines and healthcare service reports). Future studies are encouraged to also consider the non-published literature when defining concepts where there are limited number of research studies available.

Conclusion

This review of the literature summarises the meaning of CoC in the treatment of comorbidity and provides information for its implementation and assessment in both research and clinical practice. This review found that the core components of CoC likely to be important in the treatment of comorbidity differ depending on the model of care. Findings from this review act as a platform to achieve consistency in the application and assessment of CoC in treatment. Continued research is now required to determine if CoC is associated with improved patient and healthcare outcomes for this challenging and high-risk patient group.

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CHAPTER FOUR. STUDY TWO

“I’m a sick person, not a bad person’: Patient experiences of treatments for alcohol use disorders”

- PAPER ACCEPTED FOR PUBLICATION -

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Stacey McCallum (candidate)

I was responsible for the primary authorship of this study and correspondence with reviewers and journals. I am accountable to the design, collection and analysis of data, and writing of the manuscript. Ms. Emmelin Teng from the University of Adelaide acted as a second reviewer in the data analysis process to achieve consistency of findings.

Signed: Stacey McCallum

Date:12/08/2015

CHAPTER FOUR. STUDY TWO

Antonina Mikocka-Walus, Matthew Gaughwin, Jane Andrews, and Deborah Turnbull
(co-authors).

We were the supervisors of the research programme that led to this publication. There was ongoing collaboration between Stacey McCallum and us in the refining the research questions, strategies for data collection, suggestions in the presentation of findings and drafting of the manuscript. We also provided advice on responding to comments by journal editors and reviewers. We hereby give permission for this paper to be incorporated in Stacey McCallum's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed: Antonina Mikocka-Walus

Date: 12/08/2015

Signed: Matthew Gaughwin

Date: 13/08/2015

Signed: Jane Andrews

Date: 13/08/2015

Signed: Deborah Turnbull

Date: 13/08/2015

Note. The original published manuscript uses the term 'severe mental health symptoms'; however, the term 'mental condition' is used in this thesis for reader each and consistency. This chapter is formatted according to the requirements of the journal Health Expectations.

Abstract

Background Emerging research indicates that standard treatments for alcohol use disorders may not fully meet the needs of patients with co-occurring mental conditions. Investigating health quality indicators may provide insight into how current treatment might be improved.

Objective To better understand the experiences of patients receiving treatment for alcohol use disorders and compare the experiences of patients with and without co-occurring mental conditions. **Design** Cross-sectional qualitative research design using semi-structured interviews methods and framework analysis approach. **Setting** Inpatient hospital, outpatient service, inpatient detoxification clinic and a residential/ therapeutic community.

Participant's Thirty-four patients receiving treatment for an alcohol use disorder. **Main variables studied** Themes relating to patients' experiences of continuity of care, treatment need and satisfaction with treatment were studied. The qualitative data were divided into two groups: patients with ($n=15$) and without ($n=19$) mental conditions. **Results** Five themes relating to patient satisfaction with treatment were identified, including: *perceived effectiveness of treatment, supportive relationships, specialised but holistic care, patient autonomy and continuity of care*. A diverse range of patient treatment needs, *staff and service continuity and stigma* were also identified as major themes. Five basic themes were identified as more critical to the experiences of patients with mental conditions. **Discussion and conclusions** Findings suggest that patients look for supportive relationships with others, to be involved in treatment decisions, effective specialised and holistic approaches to care and a non-judgemental treatment environment.

Key words: Alcohol, treatment, comorbidity, mental health, qualitative

Introduction

Alcohol use disorders (AUDs) are one of the leading causes of disability and death in Australia, affecting up to 1 in 15 persons (AIHW, 2013; Teesson, Hall, Lynskey, & Degenhardt, 2000). AUDs are a chronic relapsing condition and patient prognosis is poor (ADGHA, 2009). Many patients do not respond to treatment and 50-80% drop out of treatment before the recommended treatment duration (Stark, 1992). Accordingly, AUDs place heavy recurrent burden on the healthcare system (AIHW, 2006). In Australia, AUD treatment episodes have risen from 42,000 in 2001-02 to more than 67,000 in 2009 (AIHW, 2011). A particularly vulnerable group of patients in AUD treatment are those with additional mental conditions. Approximately 50% of patients in AUD treatment also present with mental conditions, the most common being depression and anxiety (Murthy & Chand, 2012). These patients are found to be susceptible to poor treatment prognosis, relapse to alcohol, treatment readmission and poorer quality of life when compared to patients with only an AUD (Driessen et al., 2001; Haver, 2003; Saatcioglu, Yapici, & Cakmak, 2008).

Healthcare strategies emphasise the need to enhance the patient experience of AUD treatment, to improve treatment course and patient outcomes (Audit Commission, 2004; MCDS, 2001; WHO, 2004). Strategies highlight the need to better understand the patient perspective of existing service delivery models, specifically in areas of continuity of care (CoC), treatment need and patient satisfaction (AIHW, 2005). These are recognised key healthcare objectives and are considered indicators of treatment quality (Rao & Shanks, 2011). In the context of AUD treatment, patient satisfaction has been linked to improved patient retention (Kaspro, Frisman, & Rosenheck, 1999) and improved treatment outcomes such as reduced drinking days and improved clinical status (Donovan, Kadden, DiClemente, & Carroll, 2002). Similarly, CoC is thought to improve patient AUD treatment course and

outcomes (McLellan, Weinstein, Shen, Kendig, & Levine, 2005); however, there is a lack of quality evidence on this topic. Although some researchers have proposed that patients in AUD treatment with additional mental conditions experience poorer CoC (Adair et al., 2005; Fortney et al., 2003) and treatment satisfaction (Boden & Moos, 2009) when compared to patients with an AUD alone, little research has been done (Burns, Teesson, & O'Neill, 2005; Dewa, Tugg, Stergiopoulos, & Ghavam-Rassoul, 2012; Greenberg, Fontana, & Rosenheck, 2004).

Continuity and appropriateness of AUD treatment has, until now, been largely assessed using administrative service-use data sources. However, recent research advances indicate that administrative assessments lack practicality and do not fully capture the quality or patient's perspectives of existing treatments (AIHW, 2005). There is also limited information on whether current services address the needs of patients in AUD treatment and how patients are being transferred within the treatment system (AIHW, 2005). Nonetheless, guidelines now suggest that the patient perspective of care should be used to assess the quality of AUD treatment (NDARC, 2010). The patients perspective of care is considered most important when attempting to improve patient treatment outcomes (Oates, Weston, & Jordan, 2000).

The aim of this study was to explore the patient experience of AUD treatment in areas of CoC, treatment need and patient satisfaction. This study also sought to compare the experiences of patients with and without mental conditions, to identify whether specific issues might relate to the complex needs of these patients. Traditionally, patients with co-occurring problems are required to meet full diagnostic criteria. However, this study focused on symptoms of mental illness, rather than a diagnosis, as symptoms may nonetheless impact significantly on a patient's functioning and treatment outcomes (Saunders & Robinson, 2002). Furthermore, previous research suggests that patient treatment needs differ across

various settings (Farrell, Blank, Koch, Munjas, & Clement, 1999). Accordingly, this study recruited patients from four different service settings. To the authors' knowledge, this study is the first study to qualitatively investigate patient experiences of CoC, treatment needs and satisfaction in AUD treatment, comparing those with and mental conditions across a variation of treatment settings.

Methods

Participants

This study used a theoretical sampling strategy (Draucker, Martsof, Ross, & Rusk, 2007) to recruit patients presenting to an inpatient hospital, outpatient service, inpatient detoxification clinic and a residential/ therapeutic community. Patients were required to (a) meet DSM-5 criteria of an AUD, (b) be engaged in AUD treatment, (c) be proficient in English and (d) have alcohol as the main substance of concern. Potential participants were excluded if they (a) had consumed alcohol less than 5 days prior to assessment, (b) were cognitively impaired, or (c) were too physically or psychologically unwell, as assessed by treatment staff. The ongoing theoretical sampling process indicated that previous treatment history and treatment setting affected patient treatment experiences. Sampling procedures therefore aimed to recruit an equal proportion of patients with each of these characteristics (Coyne, 1997).

Procedure

A priori themes (patient perspectives of CoC, treatment need and patient satisfaction) were informed by key questions raised in the Australian National Comorbidity Initiative report (AIHW, 2005). Academic literature and theoretical models of healthcare delivery were also reviewed to establish a basis for the themes (Aday & Andersen, 1974; Shortell, Richardson,

LoGerfo, Diehr, & Weaver, 1977; Ware, Snyder, Wright, & Davies, 1983). A framework analysis approach was considered most suitable to explore, understand and explain patient experiences of healthcare within the highly objectified aims (Ritchie & Spencer, 2002). It is also considered a systematic, flexible and dynamic approach to analysing qualitative healthcare data (Gale, Heath, Cameron, Rashid, & Redwood, 2013). Approval was received from the Royal Adelaide Hospital and the University of Adelaide Research Ethics Committees. Recruitment began at the tertiary hospital in October 2013 and ended in February 2014. Patients were recruited at the residential service in November 2013 and the withdrawal unit in February 2014. Staff were consulted to identify potential participants based on the inclusion and theoretical sampling criteria. Patients who provided voluntary informed consent became participants. Interviews were conducted in a private space at the service ($n=30$) or over the telephone ($n=4$).

After interviews, patients completed the Depression Anxiety Stress Scale (DASS-21) (Lovibond & Lovibond, 1995) to assess mental health symptoms. The DASS-21 contains 21-items for symptoms of depression, anxiety and stress experienced over the past week. The DASS-21 has good construct validity and reliability and has been applied in Australian AUD treatment samples (Deane, Wootton, Hsu, & Kelly, 2012). Patients who scored in the 'extremely severe' range for depression and/or anxiety were grouped as having a mental condition. This cut-off is used when patient symptoms warrant clinical intervention and treatment (Lovibond & Lovibond, 1995). The investigator was unaware of the patient mental status at the time of interviews (except as disclosed incidentally during the interview) to reduce the researcher bias on the data.

The Interview

The interview was developed by the primary investigator and last author based on interview protocol recommendations (Creswell, 2007; Jacob & Furgerson, 2012). These guidelines suggest the use of open-ended questions, icebreakers, prompts, ordering of questions based on difficulty and flexibility to deviate from set questions (Jacob & Furgerson, 2012). The interview was designed to be inductive and deductive to examine a priori themes and allow patient-driven themes to arise (Creswell, 2003). An example interview item was “*what parts of your treatment have been working well for you?*” The investigator, a provisional psychologist and doctoral student, trained in interviewing and reflective listening conducted all interviews. Most interviews averaged 25 minutes in length but ranged from 15 to 50 minutes.

Data Analysis

Data were considered saturated after 30 interviews; however, 2 further interviews were conducted at the outpatient and withdrawal service to test emerging data regarding level of patient treatment experience, within these specific services (Mason, 2010). Results confirmed the data that had emerged from interviews at the tertiary hospital.

The data were divided into two groups: patients with mental conditions ($n=15$) and those without ($n=19$), and were analysed separately according to the framework method (Ritchie & Spencer, 2002). Framework analysis involves five interconnected stages that occur throughout data collection, analysis and interpretation (Ritchie & Spencer, 2002). Figure 7 illustrates the framework analysis method for the entire sample and provides details on each stage of analysis. Consistent developments to the framework and interview schedule were required to accommodate treatment settings and to test emerging data. For example, objectives initially aimed to focus on *current* treatment experiences; however,

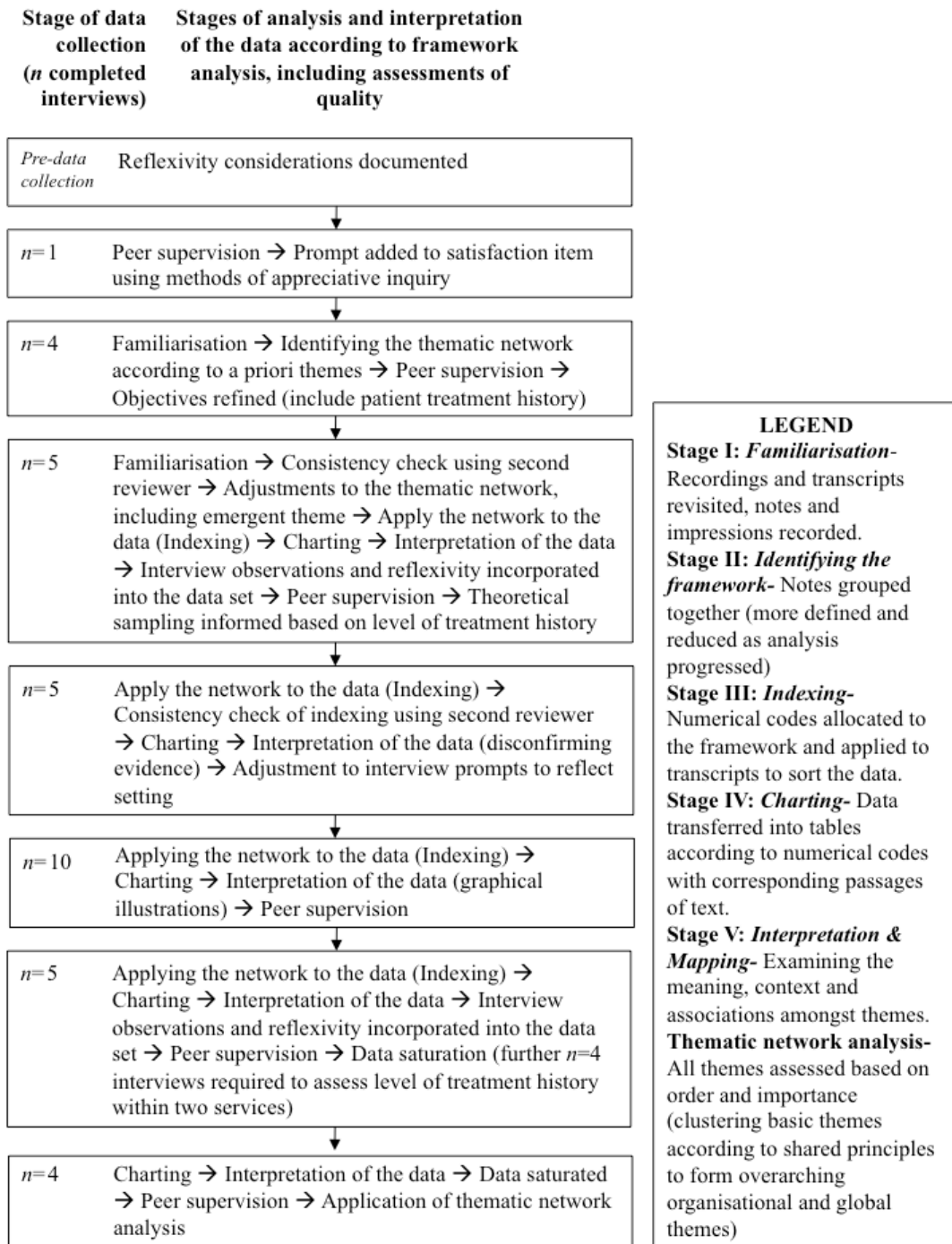


Figure 7. Framework analysis approach for the entire sample.

ongoing analysis found patients made judgements by drawing comparisons to previous treatments. Therefore, research objectives were refined to allow for inclusion of this data. Final interpretations of the data indicated a complex and interrelated series of a priori and emergent themes, and a thematic network analysis (Attride-Stirling, 2001) was also conducted.

Quality of the data was assessed to improve rigor and trustworthiness of findings (Creswell & Miller, 2000). A second reviewer (EM) evaluated analysis at two separate time points, to assess the consistency of findings. The second reviewer independently coded 10 transcripts during the *familiarisation* stage and allocated numerical codes to a further 5 transcripts during the *applying the analytical framework* stage to improve the consistency of interpretations (Tracy, 2010). Reviewers assessed the level of agreement between independent codes and indices where one minor discrepancy was identified. The second reviewer reported problems in discerning whether data related to current or previous treatments and interior or exterior staff/services, which was particularly important in the analysis of CoC data. To resolve this issue, reviewers met frequently to clarify information. Qualitative rigor (Tracy, 2010) was monitored with an audit trail documented by the primary investigator and used during meetings with last author to discuss the development of themes and ideas. Quality was also assessed using methods of disconfirming evidence (Mays & Pope, 1995; Pope, Ziebland, & Mays, 2000); a measure of validity where data contrary to major findings are investigated (Creswell & Miller, 2000).

Results

Table 4 includes the demographic and clinical characteristics of patients in the sample ($n=34$). Figure 8 illustrates the thematic network that was developed from framework

Table 4. *Demographic and clinical characteristics of patients in the total sample (n=34)*

Variable	n / M	%/ SD
Gender		
Male	22	65
Female	12	35
Age (years)	44.25	10.92
Treatment Setting		
Inpatient Hospitalisation	10	29
Outpatient	7	21
Inpatient Detoxification	7	21
Residential Therapeutic Community	10	29
Ethnicity		
White/Caucasian	33	97
Other	1	3
Marital Status		
Never Married	17	49
Separated	7	21
Divorced	7	21
Married	3	9
Highest Education Level		
High School	20	59
Tertiary	14	41
Usual Employment Pattern		
Full-time	7	21
Part-time	3	9
Casual	5	15
Student	1	3
Retired/Disability Pension	9	26
Unemployed	9	26
Perceived AUD length (years)	12.38	7.85
Patients with mental conditions (n=15)		
Depression	14.73	3.58
Anxiety	12.93	4.37
Stress	15.53	3.34
Patients with single AUD (n=19)		
Depression	6.12	4.04
Anxiety	3.18	3.07
Stress	6.0	4.27

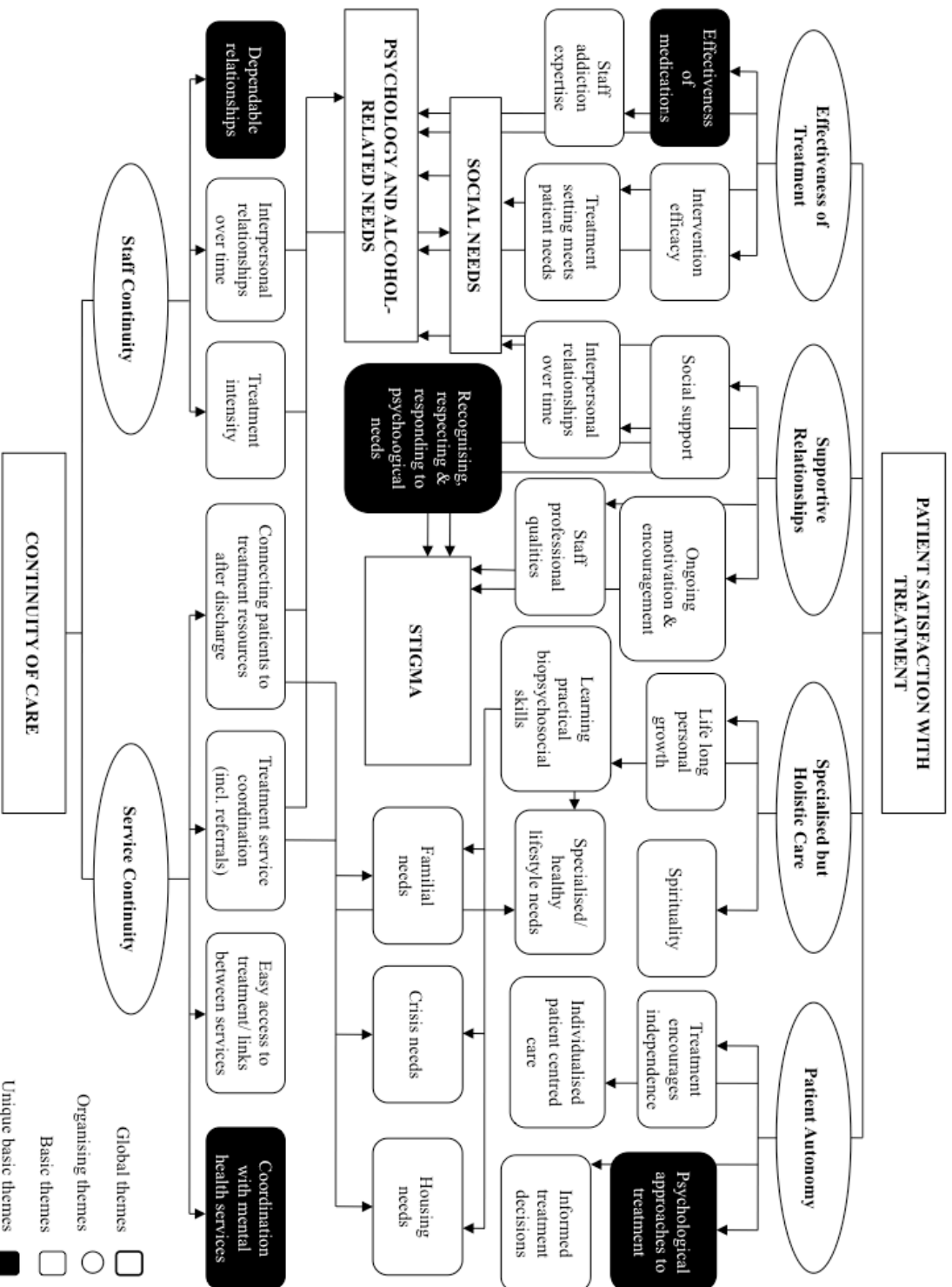


Figure 8. Thematic network illustrating the qualitative data from the total sample (n=34)

analysis of the data, including the five unique basic themes that emerged from interviews with patients with mental conditions.

Treatment needs

Three core areas of need were identified: AUD related, psychological and social needs.

Alcohol-related needs were those related to cutting back or quitting alcohol. Patients described requiring assistance with the medical management of withdrawal and cravings, trialling medications, breaking the cycle of drinking through inpatient stay and being connected to abstinence based programs.

Patients also described needing assistance with psychological symptoms. Patients discussed their desire to learn about the role of mood, anxiety and stress on alcohol use and to develop other coping strategies and methods of emotional regulation. Patients also discussed the positive impact of settings that nurtured their sense of acceptance. Patients mentioned other needs that were significant at the individual level, but were less common across the total sample. These included: housing, crisis, familial and spiritual/healthy/lifestyle needs.

Recognising, respecting and responding to psychological needs

Patients with mental conditions expressed a unique need for psychological help. These patients indicated they needed medications to reduce mental symptoms, psychological diagnostic assessments and access to treatments for mental illness. A number of patients with mental conditions described a dislike of medication-focused treatment and a preference for psychosocial treatment options:

“It’s just that I get this very bad depression and everybody just wants to put me on a drug that kills it. You know they are just focusing on the alcohol and not the psychology. If they

focused on the psychology then alcohol wouldn't be a problem. I need counselling. I need someone to talk to" [Male, 65, mental condition, Inpatient Hospitalisation].

Patient satisfaction with treatment

Perceived effectiveness of treatment interventions

Patients looked for immediate improvements to their physical and mental health and expressed feeling frustrated when interventions lacked immediate efficacy. Patients also discussed the importance of treatments that offered advice, tools and resources that improved their motivation to cut-down or quit alcohol. A dissatisfaction described by patients was interactions with staff¹ who they felt had little understanding of addiction, which increased feelings of self-blame. Patients often described the hurtful effects of staff who simply "told" them to stop drinking, which undermined their self-confidence to change their drinking habits:

"I was seen by the head of [the general hospital department (not drug and alcohol service)] and he just berated the crap out of me for drinking and you know, not particularly helpful. That's not really going to make someone who's not feeling very good about themselves and their drinking habits stop drinking, just because someone slaps you around your head a little bit." [Female, 37, single AUD, Inpatient Hospitalisation]

Patients with complex needs valued general inpatient services, as they "broke the cycle of drinking". Some patients in non-specialised settings (i.e. inpatients in hospital) described a desire to be transferred to a specialised service, explaining that they would feel more

¹ 'Staff' is used interchangeably throughout the reporting of qualitative data and might refer to a patients' treating doctor, psychologist, psychiatrist, nurse, counsellor, treatment receptionist or manager etc.

accepted. Similarly, some inpatients felt that their symptoms were often minimised by general staff in hospital and this related to feelings of being unwanted.

Effectiveness of medication for both psychological and alcohol related symptoms

Patients with mental conditions frequently cited dissatisfaction with the management and efficacy of medications. These patients looked for relief from both psychological and alcohol-related symptoms and described feeling uncomfortable when medications did not appear to reduce presenting symptoms:

“Another really frustrating thing is that they’re only giving me half of the Valium I need. They haven’t provided me with enough medication during withdrawal. They should be trying to make this as comfortable for me as possible”

[Male, 55, mental condition, Inpatient Hospitalisation]

Supportive relationships with others

A major theme discussed by patients was the importance of building supportive relationships. Patients expressed a desire to work with staff who possessed qualities such as empathy, understanding, trust, respect and expertise; and described feeling accepted in these relationships. Patients who perceived staff to be non-judgemental in their approach described that this reduced their feelings of shame. Patients were dissatisfied with members of staff who lacked the aforementioned qualities, which patients felt made them feel isolated, guilty and misunderstood:

“Not to make assumptions. Um you know doctors [general medical doctor] make assumptions about things. That really aggravates me. They just see me as an alcoholic”

[Male, 65, mental condition, Inpatient Hospitalisation]

Supportive relationships were enhanced when they continued over time. This was particularly important for outpatients who described that a strong bond with staff acted as a motivator to abstain from alcohol so as not to disappoint staff. Patients who described past experiences of social isolation discussed the value of supportive relationships with other inpatients in treatment. These relationships enabled patients to gain advice from each other’s experiences and were instrumental in helping patients feel that they were not part of a stigmatised group:

“For me, I’ve never had anyone to let all this out to, someone who was in a similar situation and I mean we are all kind of in the same boat here, like all taking drugs and alcohol... it’s just that support from the whole community. You feel really welcome and you don’t feel out of place. Everyone has their ups and downs but you offer them support and they will offer you support if they can. You can relate to people here. There is no judgement you know”

[Male, 45, Single AUD, Residential Therapeutic Community]

Specialised but holistic care

All patients in the sample expressed satisfaction when they felt that their treatment centred on their addiction while also taking a holistic approach to meeting their other complex needs.

Patients emphasised the importance of learning a variety of skills to assist them in a number areas of functioning. Patients who had previously sought treatment believed that to recover from addiction was life-long work and expressed a desire for tools that encouraged their on-

going personal growth. Patients also discussed the importance of spirituality by engaging in behaviours that connected oneself to an inner goodness.

Patient autonomy

Patients valued being involved in decisions about their treatment. Patient autonomy emerged as a theme for the majority of patients across all settings. This approach enabled patients to direct treatment in a way that encouraged their independence and satisfied their individual treatment needs. Some patients reported being dissatisfied when they felt uninvolved in the treatment process, which increased their feelings of inadequacy and increased perceptions of judgement:

“Regardless of whether I was in the state of mind for it or not, this involves me and what I’m doing and I need to know what is going on. You know we’re not stupid because we’re addicts and alcoholics, don’t play us like dummies”

[Female, 39, mental condition, Residential Therapeutic Community]

Psychological approaches to treatment

It was important for patients with mental conditions that staff respected their desire for psychological approaches to treatment. These patients often believed that if their symptoms of mental illness improved, they would be able to reduce or quit alcohol consumption. Patients expressed a desire for information on how to access psychological treatments and what these would entail.

Continuity of care (CoC)

Analysis revealed that CoC was closely associated with patient needs and satisfaction, where good or poor CoC practices often influenced whether patients felt their needs had been met or if they were satisfied with treatment. Analysis indicated two organising themes of CoC: staff and service continuity and within these five basic themes: treatment intensity, staff relationships over time, continuity after discharge, continuity across services (including communication) and access and transfer between services.

Staff continuity

Patients in hospital and at the outpatient service described the importance of contact with the same staff member over time. Patients said that staff who had a good understanding of their history (“they know my story”) enabled more productive treatment sessions. Patients in all settings emphasised the importance of treatment intensity, which was described as whether staff had made substantial efforts to understand their complex treatment histories and needs.

A dependable relationship with staff over time

Patients with mental conditions discussed the need for staff to be dependable and reliable. Issues relating to frequent changes of staff and appointment cancellations were often raised. Some patients described situations where a breakdown in the continuity of the relationship led to a relapse in alcohol use.

Service continuity

Difficulty accessing treatment led to patients being dissatisfied, particularly amongst those at the residential service and those from rural areas. Not only did patients express frustration with the length of waiting lists, but they also discussed that access requirements (i.e. regular

contact with the service) were burdensome. Difficulty accessing treatment distressed some patients; it influenced one to attempt suicide and for others it led to drinking more alcohol:

“I got told it was going to be a 3-month wait and it got to 3-months and they said I was only half-way on the list and I remember thinking I wasn’t going to make it and I tried to commit suicide. It was just, it was awful. I knew this place was around 2-3 years ago but obviously I had a house, a mortgage and I was the main income earner. I knew I needed an intensive program... but it was like I had to wait until everything was gone before I could do it” [Male, 37, single AUD, Residential Therapeutic Community]

Coordination of different services/teams/clinicians emerged as a significant issue for patients in all settings. Patients said they needed their various providers to communicate regularly, follow through with referrals and work together to offer integrated treatment. Patients described that more coordination in treatment lessened their confusion and made them more willing to engage. Inpatients specifically described feeling as though treatment had not adequately prepared them for discharge.

Most patients said that CoC practices were important for their long-term recovery; however, some disagreed. These patients outlined a preference for various treatments to be segregated and explained that they were capable of coordinating each treatment themselves. Similarly, patients seeking treatment for the first time believed that being connected to other resources after discharge was not important. Such patients described a desire to focus on personal goals and aspirations to achieve abstinence.

Connection and coordination with mental services

Patients with mental conditions emphasised the importance of coordination among services for addiction and mental illness. Patients frequently reported difficulties when trying to access psychiatric treatment whilst in substance treatment settings, which often led to neglecting their mental health symptom needs:

“What I have found difficult is that I have post-traumatic stress disorder and so when I came in here I had a very structured plan of what I needed to do to get well. I have found myself a private psychologist but I have needed to be in a safe environment and be involved in this program. I have been restricted in being able to see my psychologist and they haven’t been flexible. I have needed them to work together and they haven’t”

[Female, 39, mental condition, Residential Therapeutic Community]

Stigma

Analysis of all data sources highlighted the negative impact of stigma that emerged as a global theme. Patients described how stigma affected the process of seeking treatment and expressed a desire for more public awareness in the wider community.

I want people to know that I’m not just a homeless bum on the street who is an alcoholic. I mean I’m 32 and I’m just a standard young female who suffers from chronic alcoholism. I am a sick person, not a bad person. A lot of people don’t seek treatment because they don’t want to admit they’re an alcoholic or an addict because of the stigma and a lot die young because of accidents or they kill themselves because of the stigma. If they had just realised they were sick like everyone else.

[Female, 32, single AUD, Residential Therapeutic Community]

Patients described ways in which approaches to care worsened or alleviated their pre-existing feelings of indifference. Stigma was described as greatly affecting the quality of relationships formed during treatment. Patients believed that receiving treatment in group settings reduced their perceptions of being different. However, some patients felt stigmatised and judged by staff. Patients described this stigmatisation as not necessarily overt, but rather a “vibe” or mere sense of being looked down upon. Notably, it was observed that regardless of whether stigmatisation was intended, these feelings were very powerful for patients and often determined whether they wished to continue treatment.

Discussion

The primary aim of this study was to gain better insight into patient views of AUD treatment, in relation to CoC, treatment needs and patient satisfaction. The strengths of this study lie in its rigorous qualitative design, systematic method of analysis, diverse sample of 34 patients and objectified aims to address issues in AUD treatment. To the authors’ knowledge, this is the first study to qualitatively explore CoC, treatment needs and treatment satisfaction from the patients’ perspective in AUD treatment, using methods of cross-sectional analysis to compare the experiences of patients with and without mental conditions.

The findings highlight the importance to patients of strong and effective relationships with staff. The influence of supportive relationships is well recognised in the literature, where previous quantitative studies have linked staff-patient alliance to improved patient treatment course and outcomes (Ball, Carroll, Canning-Ball, & Rounsaville, 2006). This study identified a notable link between the quality of relationships formed in treatment and patients’ perception of stigmatisation. This finding agrees with previous quantitative research

demonstrating that an increase in patient self-stigma reduces patients' willingness to seek treatment for substance abuse (Sobell, Sobell, & Toneatto, 1992). Similarly, findings support research that some healthcare professionals are perceived by patients as lacking understanding and empathy and of being judgemental (Todd, Sellman, & Robertson, 2002). The results indicate that patients value autonomy and patient-centred approaches to treatment. This finding is in accordance with previous quantitative research demonstrating the positive impact of provider training in patient-centred care (i.e. motivational interviewing) on the provider-patient relationship in primary care settings (McCarty, Gustafson, Capoccia, & Cotter, 2009). A wide range of AUD treatment approaches exist and it is well documented that certain treatments are beneficial for different types of patients (ADGHA, 2009). The data from the study reflected this, as patients were satisfied when they believed treatment was beneficial and effective at addressing their specific needs. This study identified that patients looked for treatments that were specialised in addressing addiction but also aimed treat a range of other needs. Areas of patient need commonly seen in AUD treatment settings include: medical, psychological, alcohol, social/familial, legal, drug and employment (McLellan et al., 1985). Results from this study support the range of needs patients have in treatment, as patients identified that they required most assistance with AUD, psychological problems and social problems. The patients' perspective of CoC in AUD treatment is currently not well understood. However, the literature in the area of CoC has described studies of consistent contact with staff, length of stay in treatment and access to services (Burman et al., 2004; Tait, Hulse, & Robertson, 2004). This study identified that patients value consistent and intense contact with supportive providers over time, easy access to services, coordination and consistency amongst various providers/services and being connected to ongoing treatment resources after discharge.

Findings from this study also identified experiences that were more common to patients with mental conditions in AUD treatment. The results indicate that patients with mental conditions were frustrated when they perceived that medications are mismanaged or lacked efficacy. Previous studies also report such experiences, describing that patients with co-existing and substance abuse and mental disorders are less compliant with medications than patients with just a single diagnosis (Burns, Teesson, & Lynskey, 2001). Similarly, there is minimal evidence to support the effectiveness of medication interventions for patients with co-occurring diagnoses, as comorbidity is often an exclusion criteria in research trials (Petrakis, Gonzalez, Rosenheck, & Krystal, 2002). Results also suggested that patients with mental conditions needed staff to value psychological approaches to treatment and required strong coordination between AUD and mental treatment services. This supports the growing recognition in the literature of the problems caused by separating services for addiction from services for mental illness. The finding also supports the negative impact that the separation of services has on patients' capacity to access and engage with the treatments they require (Staiger et al., 2011).

The findings highlight the impact of past treatment experience on patient appraisals of treatment, particularly CoC. It was observed that patients receiving treatment for the first time displayed limited knowledge of AUD treatment services, appeared less motivated for change, were more inclined to reduce alcohol intake than aim for abstinence and were less interested in communicating their admission to their other healthcare clinicians or receiving further treatment after discharge, when compared to patients with previous treatment admissions. This finding supports previous studies which have linked patient treatment readiness and addiction severity to patient satisfaction with treatment and outcomes (Dearing, Barrick, Dermen, & Walitzer, 2005; Marsden et al., 2000; Schulte, Meier, & Stirling, 2011; Simpson, Joe, & Rowan-Szal, 1997). Future quantitative research would benefit by

investigating the impact of these variables on CoC in this treatment context. In addition, patients receiving treatment for the first time discussed non-treatment related goals such as becoming a better parent or getting a job. This finding may point to the usefulness of social work services, life-coaching or existential counselling as a suitable treatment approach for patients with less severe addictions and/or minimal motivation to change.

Findings, which illustrate the patients' perspective of care, are worth considering by clinicians, researchers and policy makers aiming to improve patient experiences of AUD treatment. It is important to acknowledge that results from this study only reflect one perspective of care and improving treatment quality requires a mutual responsibility from providers and patients. However, the following suggestions may be helpful for providers in refining their clinical practice to enhance patient treatment experiences. In circumstances where AUD services do not permit the treatment of non- alcohol related needs, providers are encouraged to network with services that do so. Providers are then encouraged to practice active referral and assertive follow-up through organising appointments, exchanging information, jointly developing treatment plans and maintaining regular contact to monitor patient progress (NDARC, 2010). It is suggested that staff feel confident to identify, treat and respect patients' mental symptoms for patients with mental conditions. Providers are suggested to feel confident in offering treatment options and managing patient expectations through information on treatment access, suitability and effectiveness, particularly in regards to medications for patients with mental conditions. A common dissatisfaction for patients with mental conditions in acute care was the need for immediate symptom relief from medication. Direct discussions of the purpose for medications, side effects and likely effectiveness for both symptoms are likely to benefit patients' expectations. Providers are also encouraged to equip patients with the information necessary to make decisions about their current and ongoing treatments and respect their preferred treatment approach. Patient

centred-care practices are crucial; however, providers must be cautious not to leave patients to navigate their way through services. Providers are encouraged to acknowledge ongoing and intense relationships with patients. Accordingly, to improve staffs' capacity to form meaningful relationships with patients it is suggested that all levels of staff have sufficient addiction training. From an organisational perspective, services might consider reviewing how staff are rostered and resourced, as a means to improve the consistency of staff for patients with mental conditions. Addressing issues of high staff-turn over and increasing patient contact with staff is likely to have a positive impact on patients with mental conditions experiences of AUD treatment.

Despite such positive contributions, this study contained limitations. Patients were required to be abstinent from alcohol for at least 5 days to minimise the impact of alcohol withdrawal on symptoms of anxiety. This criterion therefore excluded patients who had prematurely discharged themselves or did not attend their appointment. Patients also were required to be engaged in treatment, thereby excluding those who were unable or did not wish to access treatment. Thus, it is probable that sample bias may have underestimated issues in accessing services or dissatisfaction at the commencement of treatment. However, sample bias may have been reduced as patients discussed their retrospective treatment experiences. Future research would benefit from recruiting patients on waiting lists or those who had left treatment early to determine if significant issues were missed or underestimated. To enhance the utility of a second reviewer in qualitative data analysis, future studies should seek to appoint a reviewer who has sound knowledge of the specific clinicians, services and system under investigation in the study.

Conclusion

This study provides a framework for methods to improve patient experiences of AUD treatment in relation to CoC, treatment needs and satisfaction. Patients look for supportive relationships, to be involved in treatment decisions, effective specialised and holistic approaches to care and a non-judgemental treatment environment. Patients require easy treatment access, intense contact with staff and coordinated treatment approaches. This study also found several needs that were unique to the experiences of patients with mental conditions. These included psychological needs and approaches to treatment, dependable relationships with staff, better coordination among services for addiction and mental illness, and managing patient expectations in relation to medication efficacy. These findings are a valuable contribution to current knowledge, providing insight into the ways treatment providers, service managers and policy makers might improve the care of patients with mental conditions at existing services.

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CHAPTER FIVE. STUDY THREE

**“Patient satisfaction with treatment for alcohol use disorders: Comparing patients with
and without severe mental health symptoms”**

- MANUSCRIPT UNDER REVIEW -

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5.1 Statement of authorship

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Stacey McCallum (candidate)

I was responsible for the primary authorship of this study and correspondence with
reviewers and journals. I am accountable to the design, collection and analysis of data, and
writing of the manuscript.

Signed: Stacey McCallum

Date:12/08/2015

CHAPTER FIVE. STUDY THREE

Jane Andrews, Matthew Gaughwin, Deborah Turnbull, and Antonina Mikocka-Walus
(co-authors).

We were the supervisors of the research programme that led to this publication. There was ongoing collaboration between Stacey McCallum and us in the refining the research questions, strategies for data collection, suggestions in the presentation of findings and drafting of the manuscript. We also provided advice on responding to comments by journal editors and reviewers. We hereby give permission for this paper to be incorporated in Stacey McCallum's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed: Jane Andrews _____ Date: 13/08/2015

Signed: Matthew Gaughwin _____ Date: 13/08/2015

Signed: Deborah Turnbull _____ Date: 13/08/2015

Signed: Antonina Mikocka-Walus _____ Date: 12/08/2015

Note. The original manuscript uses the term 'severe mental health symptoms'; however, the term 'mental conditions' is used in the thesis for reader ease and consistency. This manuscript was submitted for review using the Vancouver referencing system; however, the American Psychological Association 6th Edition is used in this thesis for consistency. This chapter is formatted according to the requirements of the journal Patient Preference and Adherence.

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CHAPTER SIX: DISCUSSION & CONCLUSIONS

6.1 Preamble

This chapter presents a critical discussion of the thesis findings. Firstly, a summary of the original results from each individual study is presented. This section includes an integration and synthesis of the findings to address the overarching thesis aim, and an overview of the original contributions to knowledge. Subsequently, the results are discussed according to the practical implications for clinical practice, service delivery and healthcare policy. Finally, the chapter closes with a discussion of the strengths and limitations of the thesis, future research directions and a concluding statement.

6.2 Overview of findings

6.2.1 Statement of main findings

This thesis aimed to examine three quality indicators in the treatment of substance use disorders and comorbidity: continuity of care, treatment need and patient satisfaction with treatment. The thesis consisted of a traditional review of the literature (*study one*), qualitative interview study (*study two*) and quantitative survey study (*study three*).

Study one found that CoC is inconsistently defined, applied and measured in the treatment of comorbidity. More specifically, CoC was defined as both a singular outcome variable and a multidimensional construct. This study uncovered core types of CoC across studies as including: *continuity of the relationship, continuity across services, continuity as regularity and intensity, continuity through transfer, continuity as responsiveness to changing needs* and *successful linkage of the patient*. This study consolidated possible mechanisms to apply and assess each aspect of CoC in various treatment settings and

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different levels of care. Results also highlighted the factors associated with breakdowns in CoC, and identified some consistent evidence to indicate improved CoC is associated with positive treatment and patient related outcomes.

In *study two*, patients in treatment for an alcohol use disorder (AUD) outlined areas of treatment need as including: alcohol related, psychological, social, familial, crisis and housing. Themes associated with patient satisfaction included: the importance of supportive relationships, effectiveness of treatment interventions, patient autonomy, specialised and holistic care. CoC emerged as a central theme related to patient satisfaction with treatment, including both staff and service continuity. Patients discussed the importance of interpersonal relationships over time, treatment intensity, coordination across different services, continued treatment after discharge and easy access and transfer to services. A key theme found to underpin patients' experiences of treatment was the impact of stigma and feeling judged. Five *basic* themes were identified as unique to the needs and desires of patients with comorbidity. These included the need for standard treatments to recognise, respect and respond to patients' symptoms of mental illness. Patients with comorbidity also highlighted a desire for psychological approaches to treatment, staff dependability, effective medications for both alcohol and psychological related symptoms and the need for better coordination between addiction and mental health services.

Study three found patients with and without comorbidity reported comparable satisfaction with treatment, even after controlling for the impact of treatment setting, treatment readiness, locus of health control and general life satisfaction. However, patients with comorbidity were found to be significantly more dissatisfied with staff's understanding of the type of help they wanted in treatment, when compared to patients with single diagnoses. Potential improvements to treatment nominated by patients included: staff

qualities, keeping the patient informed, treatment access and continuity, issues relating to inpatient stay and addressing psychological symptoms.

6.2.2 Meta-inference & conclusions

The body of work presented in this thesis was also designed to allow for convergence of study results, to compare the quality of treatment received by patients with and without comorbidity in existing services, according to three quality indicators: continuity of care, treatment need and patient satisfaction.

The results produced from each individual study were integrated and are presented in the context of a schematic diagram in Figure 10. As illustrated, the overall results produced from each of the three studies were found to be similar. Contrary to the consensus in the literature, *study one* did not identify solid evidence to support the belief that patients with comorbidity receive significantly poorer CoC in treatment, when compared to patients with single disorders (Adair et al., 2005b; Dewa et al., 2010; Fortney et al., 2003; Schaefer, Cronkite, & Hu, 2011). Similarly, *study two* found the major organising themes reported by patients in relation to CoC, treatment need and patient satisfaction were identical between patients with and without comorbidity. Likewise, *study three* found no significant differences in patient satisfaction with treatment amongst patients with and without comorbidity in a properly powered sample of patients, even after controlling for the impact of confounding variables. Collectively, the findings from the series of studies presented in this thesis indicate that patients with comorbidity who had engaged in the initial stage of treatment had comparable experiences of CoC, treatment need and satisfaction, when compared to patients with single disorders. This was an unexpected finding, as there exists widespread belief that standard treatments and programs do not adequately meet the needs of patients with comorbidity (Bogenschutz, Geppert, & George, 2006; Kay-Lambkin, Baker, & Lewin, 2004;

Kessler et al., 1999; Timko, Sutkowi, & Moos, 2010; Torrens, Rossi, Martinez-Riera, Martinez-Sanvisens, & Bulbena, 2012).

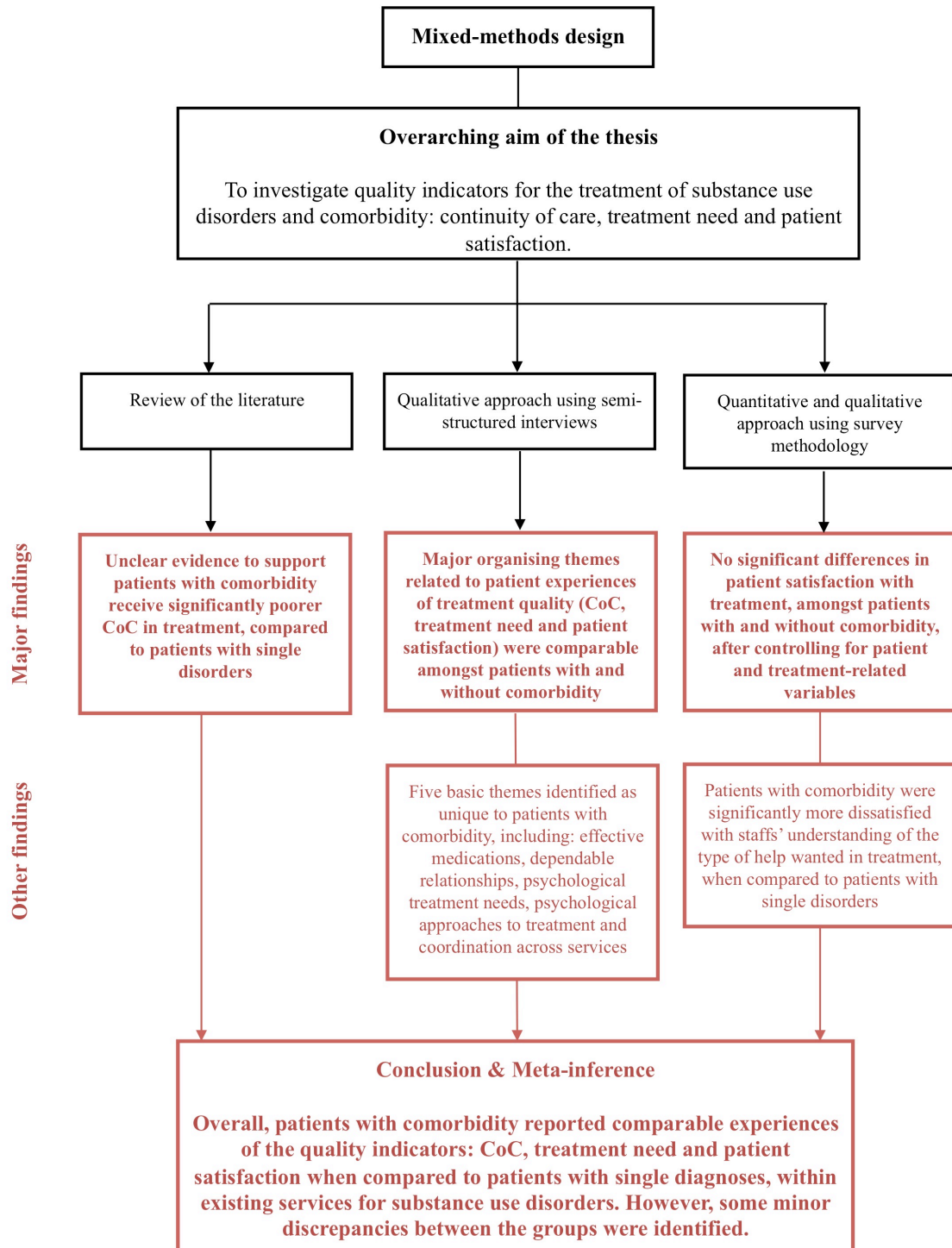


Figure 10. Findings, meta-inference and conclusions produced from the present thesis.

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There exist few pre-existing studies which have compared the quality of treatment received by patients with and without comorbidity in this context (McCarty, McConnell, & Schmidt, 2010). However, the overall finding produced from this thesis has been reported elsewhere in the previous literature. A 2012 Australian study compared the course and outcomes of standard SUD treatment among 163 patients with comorbidity and 71 patients with SUDs only (Cridland, Deane, Hsu, & Kelly, 2012). This study reported patients with comorbidity equally benefit from standard SUD treatment programs when compared to patients with only SUD diagnoses, in regards to treatment duration, access, decreased substance use, psychiatric severity and general recovery (Cridland et al., 2012). Similarly, a comparative prospective study ($n=3,018$) assessed the impact of psychiatric comorbidity on the treatment received in a SUD program and 1-year patient outcomes (Ouimette, Gima, Moos, & Finney, 1999). Results indicated the overall pattern between treatment variables and outcomes did not differ among patients with ($n=1,076$) and without ($n=1,932$) comorbidity (Ouimette et al., 1999). Overall results from this research suggest that the consensual belief in the literature, that patients with comorbidity receive inadequate treatment quality in existing disease-specific services, may in fact be conjecture and lacks support from this, and other, research.

Despite no global decrement in patient-reported outcomes, the research presented in this thesis did identify that patients with comorbidity have some differing experiences of treatment, when compared to patients with single disorders. *Study two* identified five *basic* sub-themes that were uniquely valued by patients with comorbidity. Patients expressed a desire for their symptoms of mental illness to be recognised and responded to in treatment. Patients with comorbidity also discussed the importance of standard treatments to offer psychological approaches to treatment, dependable relationships with staff, effective

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medications for both alcohol and psychological related symptoms and the need for better coordination between services. Similarly, an item-by-item analysis of the satisfaction instrument used in *study three* identified patients with comorbidity were significantly more dissatisfied with staffs' understanding of the type of help they wanted in treatment. These findings are a valuable contribution to current knowledge and can be utilised to inform improvements to existing treatments, to better meet the needs and desires of patients with comorbidity. However, findings produced from this thesis reflect patient experiences for those who had engaged for at least five days of treatment. Thus, experiences of patients with comorbidity prior to seeking treatment and throughout ongoing stages of treatment were not examined. It is likely that patients with comorbidity needs might be different at other stages of treatment.

6.2.3 Contribution to knowledge

The findings produced from this research hold important original contributions to current knowledge and the existing literature:

Contribution 1: An investigation of complex constructs within a challenging and 'difficult to access' patient group.

As discussed in previous chapters, there exist a number of difficulties and challenges with conducting research in the context of this complex patient group (Schomerus et al., 2011). Patients with addictions and/or mental illness are considered a vulnerable group, characterised by social disadvantage, overall poor health status and quality of life (Andrews, Henderson, & Hall, 2001; Angermeyer, Matschinger, & Siara, 1992; Merikangas et al., 1998). In addition, patients are particularly difficult to access for the purpose of healthcare research, due to the small proportion of patients who seek treatment (Teesson, Hall, Lynskey,

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& Degenhardt, 2000), unwillingness to participate in research studies (Corsi, Van Hunnik, Kwiatkowski, & Booth, 2006; Thomson, Morley, Teesson, Sannibale, & Haber, 2008), high rates of treatment dropout (SAMHSA, 2008) and difficulty tracking patients over-time (Walton, Ramanathan, & Reischl, 1998). The 2005 Australian National Comorbidity Initiative report highlighted the limitedness of national healthcare data to address questions concerning the quality of treatment received by patients with comorbidity within the existing healthcare system (AIHW, 2005). As a consequence, this report advocated for increased research assessing patient experiences of continuity, treatment need and satisfaction with services (AIHW, 2005). This thesis employed a comprehensive research design to investigate the experiences of patients receiving treatment within the existing healthcare system, and the complex challenges faced by patients with comorbidity in treatment. The findings are a valuable contribution to current knowledge, and shed new light on this complex and challenging research topic.

Contribution 2: A review of CoC in the treatment of comorbidity.

The literature presents CoC as an essential requirement in the treatment of comorbidity, as a method to improve patient treatment prognosis and outcomes (AIHW, 2005; Kenny, Kidd, Tuena, Jarvis, & Roberston, 2007). However, it is well documented in the literature that CoC is variably defined, applied and assessed (Van Walraven, Oake, Jennings, & Forster, 2010), and consequently there remains unconvincing evidence to support its positive impact in the treatment of comorbidity. Whilst several reviews of the CoC literature have been undertaken in the treatment of mental illness (Bachrach, 1981) and the general medical literature (Uijen et al., 2012; Van Walraven et al., 2010), *study one* is the first review of CoC in the specific context of treatment for comorbidity. Prior to this thesis, there existed no consolidation of how CoC had been defined, applied or assessed in the treatment of comorbidity, and there

existed few practical guidelines for frontline clinicians to implement CoC practices appropriately. However, studies referred to in *study one* were mostly based on research conducted in the United States. It is possible that findings produced from *study one* are limited in their generalisability to the Australian healthcare system. Notwithstanding, the results produced from *study one* are an important contribution to the existing literature, and the findings provide a practical framework to guide future research and clinical practice in this area.

Contribution 3: A robust quantitative investigation of under-researched variables in comparing patient satisfaction with treatment amongst patients with and without comorbidity.

In 2011, a systematic review of the literature identified only three studies that had compared patient satisfaction with treatment amongst patients with and without comorbidity; and results produced from these studies were found to be inconsistent (Boden & Moos, 2009; Burns, Teesson, & O'Neill, 2005; Herrell, Fenton, Mosher, Hedlund, & Lee, 1996). In this review, Schulte et al., (2011) stated that studies conducted to date had yet to account for potential confounding variables that have shown importance in the treatment of single disorders. To the author's knowledge, *study three* is the first study to account for the impact of treatment setting, treatment readiness, locus of health control and life satisfaction, when comparing treatment satisfaction amongst patients with and without comorbidity. Results suggested the confounding variables accounted for only a small amount of the variance in patient satisfaction, and being an inpatient in hospital was the only variable found to be significantly associated with reduced satisfaction. These results are a novel contribution to existing knowledge, as until now they have yet to be investigated in this research context.

Contribution 4: Evidence that patients with and without comorbidity report comparable experiences of treatment quality.

The literature frequently states that existing treatments do not meet the complex needs of patients with comorbidity (Kessler et al., 1999; Mills et al., 2010; Wu, Kouzis, & Leaf, 1999). Accordingly, there is a common belief that patients with comorbidity do not receive adequate care in standard treatment, when compared to patients with single diagnoses (Schulte, Meier, & Stirling, 2011). Contrary to the existing consensus in the literature, the results produced from this thesis found that patients with comorbidity who engaged in the initial stages of treatment reported overall comparable experiences of treatment quality, when compared to patients with single diagnoses. This finding provides novel information as to the quality of existing treatments from the patients' perspective, and provides important feedback to those working with this patient group. As previously stated however, findings produced from this thesis reflect patient experiences for those who had engaged in the initial stages of treatment. Whilst it might be true that patients with comorbidity report similar satisfaction with services to patients without comorbidity at the initial stages of treatment, dissimilar results may be found for those trying to access treatment and for patients engaged in ongoing treatment.

Contribution 5: Identification of the specific needs and desires of patients with comorbidity, to provide suitable recommendations for existing treatments.

A substantial contribution of this thesis was its identification of the unique needs and desires of patients with comorbidity receiving treatment at addiction services. Whilst the overall findings revealed minor discrepancies between the groups, the unique differences hold important implications in improving the treatment of patients with comorbidity within the existing treatment system. The qualitative analysis identified five *basic* themes uniquely

valued by patients with comorbidity. More specifically, two unique themes relating to patients with comorbidity experiences of CoC were identified: dependable relationships with staff and coordination across services for addiction and mental health. These results are a unique contribution to current knowledge, as no previous study has investigated the CoC needs of patients with comorbidity when compared to patients with single diagnoses, through qualitative analysis. Similarly, results from the quantitative study found that patients with comorbidity were significantly more dissatisfied with staff's understanding of the type of help they wanted in treatment, when compared to patients with single diagnoses. These findings draw attention to the areas of treatment which could be targeted and subsequently enhanced, and offer important contributions to the existing literature and current clinical practice.

6.3 Implications for clinical practice, service delivery and healthcare policy

Findings hold important implications for frontline clinicians, service directors and policy makers. This section focuses on the implications of findings relevant to the treatment of comorbidity. However, findings also have important implications for the treatment of patients with single AUD diagnoses, and these are outlined in each of the previous research study chapters. Whilst this thesis provides important recommendations for existing research and clinical practice, suggestions should be considered in the context of available resources. The need for cost-benefit analysis research in this area is further highlighted in the future recommendations section of this chapter. It should also be noted that recommendations provided in this thesis do not reflect outcome-based research, but on research exploring treatment process measures. Lastly, findings produced from the current thesis should be considered in light of the possible sample bias of *study two* and *study three*. Patients included in these samples were predominately male, of white ethnicity, highly educated, not

cognitively impaired and had engaged in treatment for at least 5-days. It is likely that findings and the associated implications may not be generalisable to patients in AUD treatment outside these patient and treatment characteristics. Further information on sample bias is included in the strengths and limitations section of this chapter.

6.3.1 Positive feedback for services

The overall thesis finding is a positive result for the services included in this research context. According to patients' views, there appeared no global decrements in the care received by patients with comorbidity, when compared to patients with single disorders. This finding may indicate there is no pressing need to change existing care practices and procedures at existing services to accommodate this patient group. This is an encouraging finding, as comorbidity is considered difficult to effectively detect, manage and treat in disease-specific services (Weaver et al., 2003); particularly considering the lack of resources currently available (Belling et al., 2011; Whitter et al., 2006). Findings may enhance optimism amongst those working with patients with comorbidity in the services included in this research context.

The thesis finding also provides positive feedback for the quality of disease-specific treatments for patients with comorbidity. Currently, there exists a push for integrated programs to treat comorbidity (Drake, Wallach, & McGovern, 2014; Torrens et al., 2012; Villena & Chesla, 2010), which are considered burdensome on healthcare resources and costs (Minkoff, 2014; Staiger, Long, & Baker, 2010), and lack empirical support for efficacy. However, results produced from this research proposes that improvements to the treatment of comorbidity could be achieved through addressing the specific issues identified by patients with comorbidity within existing services, to better meet these patients' needs. The remainder of section 6.4 outlines suggestions for clinicians, service directors and policy makers, to enhance the treatment of patients with comorbidity within existing services.

6.3.2 Enhancing the CoC practices available at existing addiction services

Findings produced from the present research highlight the importance of CoC for patients in addiction treatment, and would encourage improvements to existing CoC practices.

Increasingly, policy makers are encouraged to focus on data which reports on the experiences of patients in treatment (ACSQHC, 2010). CoC practices emerged as a major theme related to patient satisfaction with treatment, in the qualitative analysis of both *study two* and *study three*. This finding may provide policy makers with evidence to justify increasing efforts to enhance existing CoC practices. Similarly, the review of the literature identified consistent evidence linking CoC to patient satisfaction, engagement and commitment to treatment for patients with comorbidity (Adair et al., 2005a; Greenberg, Fontana, & Rosenheck, 2004; Schaefer et al., 2011).

6.3.2.1 Coordination between addiction services & mental health services

Methods to improve CoC for patients with comorbidity were identified in the qualitative research study. A unique theme to emerge for patients with comorbidity was their desire for better coordination between addiction and mental health services. Patients discussed issues relating to communication and exchange of information between different services and difficulties accessing alternative treatments simultaneously. This finding supports an extensive amount of previous literature describing the segregation and lack of coordination between existing addiction and mental health services (Drake, Mueser, Clark, & Wallach, 1996). More specifically, previous studies have identified issues relating to the integration and communication between services and cross-training of staff, in the treatment of patients with comorbidity (Kavanagh et al., 2000; Russell & Evans, 2009; Staiger et al., 2010).

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The findings produced from *study one* are a valuable contribution to assist frontline clinicians in implementing CoC practices for patients with comorbidity. The study recommends which aspects of CoC are likely to be relevant in different services. Similarly, methods for implementing and assessing CoC effectively are provided. To illustrate the practical application of the findings produced from *study one*, an example is provided. In a sequential model of care, where patients with comorbidity receive inpatient SUD treatment followed by outpatient treatment for mental illness, the core aspects of continuity likely to be important include: *continuity of the relationship, continuity across services, continuity through transfer* and *successful linkage of the patient*. The clinician working at the inpatient SUD service is encouraged to implement CoC by keeping contact with the patient before and after their first outpatient appointment, scheduling to see the patient at the outpatient service and contacting the clinician at the outpatient service to recommend suitable treatment approaches. Results from *study one* also indicate patients who are especially likely to be at risk of poor CoC, namely: patients with a diagnosis of schizophrenia, personality disorder, substance-induced mood disorder, bizarre behaviour or heroin/opoids addiction, homeless, had additional medical problems and were of a minority ethnicity. Clinicians can use this information to flag incoming patients who may require substantial time and resources.

Although improvements to cross-service coordination might be achieved at the frontline clinician level, researchers have recently advocated for system-level changes that promote collaboration at the administrative level (McCarty et al., 2010; Minkoff, 2014). The findings produced from this research support the need to address the systemic and structural segregation between services for addiction and mental illness. Recent researchers point to the benefits of developing and enforcing best practice guidelines to address the structural issues inherent in the system (Bird et al., 2002; Kay-Lambkin et al., 2004; McCarty et al., 2010; Minkoff, 2014). A 2010 discussion paper advocated for the development of suitable

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performance measures in this treatment context (McCarty et al., 2010). Performance measures monitor frontline clinicians' ability to conform to best practice criteria and standards of quality (Academy for Health Services Research and Health Policy, 2002). The Centre for Substance Abuse Treatment in the United States developed seven core performance measures entitled the Washington Circle. These measures aim to assess quality and coordination of treatment at the organisational and system level of care within the public sector (Centre of Substance Abuse Treatment, 2015; Garnick et al., 2002). For example, the treatment engagement performance measure determines the percentage of patients with an SUD who receive two additional SUD services within 30-days from commencement of treatment (Garnick, Lee, Horgan, Acevedo, & Workgroup, 2009). Policy makers in Australia might look to adopt similar performance measures in relation to CoC, to monitor frontline clinicians' communication and coordination activities.

Improvements to the availability of resources and funding to improve the structural collaboration between addiction and mental health services are also needed (Horsfall, Cleary, Hunt, & Walter, 2009). One area that could be addressed is exchange of patient information between services using database systems to monitor ongoing patient care. Currently, there exist no cross-service database system between addiction and mental health services in Australia. The Department of Veterans Affairs in the United States has one of the leading technological database systems across multiple services, which tracks patients' ongoing service use and the quality of treatment received (Garnick et al., 2002; Harris, Humphreys, & Finney, 2007). Previous authors indicate that the introduction of electronic databases and performance monitoring require substantial funding, resources and staff training (McCarty et al., 2010). However, investments to develop electronic database systems in Australia are needed, to ultimately improve the coordination between addiction and services for mental illness at the system level. In March 2015, the Improvement Foundation developed a new

electronic database system for General Practitioners (GP) in Australia to track the care of patients with chronic conditions and to set treatment goals for patient contact (Improvement Foundation, 2015). New advances such as these will prove useful in the future, to improve the quality of treatment of patients with addictions and mental illness at GP services.

6.3.2.2 Consistency & availability of staff at addiction services

In this research, patients with comorbidity raised issues regarding their desire to be able to depend on staff being present throughout treatment. Patients discussed that staff dependability was compromised when staff left services, retired, took leave for extended periods of time or regularly cancelled appointments. Patients said this lack of dependability had a negative impact on their willingness to build relationships with staff and their overall experiences of treatment. At the frontline level, this result would encourage clinicians to discuss their future availability with patients at the commencement of treatment. If a clinician is taking leave from their job, this should be discussed with patients at the outset of treatment, and alternative supports for the patient should be arranged and implemented.

The challenges associated with maintaining regular staff within addiction services is well documented in the literature. Previous studies attribute high staff turnover to increasing workload demands, emotional burnout, job stress, low pay and insecure sources of funding (Eby, Burk, & Maher, 2010; Knight, Broome, Edwards, & Flynn, 2011; Knudsen, Ducharme, & Roman, 2008; McCarty et al., 2010). Service directors might address these issues through implementing institutional supports for staff (i.e. regular peer debriefing sessions and counselling for staff), management of staff rosters, careful monitoring of staff caseloads and evenly distributing caseloads amongst staff. Policy makers might improve the availability of staff through increasing funding or through implementing occupational risk prevention strategies, such as addressing organisational climate and morale.

6.3.3 Staff education & training in the management of comorbidity

Results from the quantitative study found patients with comorbidity did not feel staff understood the type of help they wanted in treatment, when compared to patients with single AUD diagnoses. To address this specific issue, clinicians are encouraged to listen carefully to the needs and desires of patients, and demonstrate empathy and understanding skills. Existing best-practice guidelines recommend staff take a non-judgemental approach and express empathetic and compassionate attitudes to successfully engage patients with comorbidity in treatment (NDARC, 2010). Findings produced from this research support this strategy and would encourage service directors and policy makers to monitor it at the frontline clinician level. Similarly, policy makers may look to introduce routine performance assessments of staffs' interpersonal skills. Service directors could allocate staff with well-developed skills in listening and empathy to patients with comorbidity, through staff-patient matching, or train other members of staff through supervision. The authors were unable to locate any studies which had assessed the effectiveness of staff-patient matching the mental health or addiction fields. However, a 2011 study investigated the impact of matching staff skills to patient needs in both an acute and residential general health service in Vancouver, Canada (Harvey & Priddy, 2011). This study found that staff-patient matching had a positive effect on the financial costs of each unit; however, no data were collected examining healthcare quality indicators such as the patients' experiences of treatment. (Harvey & Priddy, 2011)

Findings produced from the qualitative study (*study two*) are useful in understanding the type of help patients with comorbidity want in treatment. A unique theme which emerged for patients with comorbidity was their desire for their psychological symptoms to be detected and monitored in treatment. Some quantitative results produced from *study three* may support this. Although differences were statistically non-significant, patients with

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comorbidity were more dissatisfied with the statement “*staff and I have similar ideas about what my treatment objectives should be*” (7.5% versus 0%) and “*I have liked most of the treatment rules and regulations*” (20% versus 12.2%) than those without comorbidity. Collectively, these findings might suggest that patients with comorbidity want existing treatments to recognise their psychological symptoms and accommodate suitable interventions to address symptoms. This finding might encourage routine screening instruments of mental illness for patient feedback and to inform staff decisions about patient care and ongoing treatment management (McCarty et al., 2010). Patients with comorbidity also discussed their desire for more psychological treatment options. In 2007, the South Australian government declared all services for addiction and mental illness should accommodate the treatment of patients with comorbidity (Department of Human Services, 2008). Accordingly, service directors and policy makers are encouraged to introduce psychological interventions into the structure of their existing programs. These may include implementing patient information sessions or group therapy sessions (i.e. relaxation training or mindfulness). Existing best-practice guidelines state that staff working in addiction services should have expertise in the assessment and treatment of comorbidity, and where possible the same staff member should provide both treatments (AGDHA, 2009). Clinicians working in addiction services are encouraged to seek education and training in the delivery of psychological interventions for patients with comorbidity. As highlighted in chapter 1 of the thesis, cognitive behavioural therapy (CBT) is considered as the most effective and suitable psychological intervention for the treatment of co-occurring AUDs, anxiety and depression (Mills et al., 2010). Service directors and policy makers might consider implementing mandatory training requirements for staff and increasing financial resources and support for staff to receive professional development opportunities in the training of CBT.

Lastly, the findings produced from the qualitative study (*study two*) identified that patients within the inpatient hospital setting discussed unique negative treatment experiences. In particular, patients expressed feeling stigmatised by general hospital staff due to feeling judged about their addiction and feeling as though staff were prioritising the needs of other patients. Such findings further highlight the importance of specialist drug and alcohol treatment specialists and services within general hospital settings. The specialists and team act to support and educate general hospital staff about treating patients with addiction and mental illness. This might occur through frequent liaising amongst staff, short educational courses for staff and written procedural treatment guidelines.

6.3.4 Best-practice guidelines at the organisational and system level

Increasingly, best-practice guidelines are emerging to assist frontline clinicians in providing effective treatment for patients with comorbidity. A critical publication was the 2010 Guidelines on the Management of Co-occurring Alcohol and Other Drug and Mental Conditions in Alcohol and Other Drug Treatment Settings, produced by the National Drug and Alcohol Research Centre (NDARC, 2010). A 2009 publication developed by the Australian Government Department of Health and Ageing titled Guidelines to the Treatment of Alcohol Problems dedicated a section of guidelines to assist clinicians in offering treatment for patients with comorbidity (AGDHA, 2009). In addition, the National Institute for Health and Care Excellence in the United Kingdom is due to release clinical guidelines for the treatment of severe mental illness and substance misuse in September 2016 (NICE, 2014).

Despite these positive contributions, there exist a lack of well-defined guidelines for service directors and policy administrators in providing best-practice for patients with comorbidity, within the existing system (Horsfall et al., 2009). At present, researchers are

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pushing for the development and enforcement of best practice guidelines which relate to the quality of treatment received by patients with comorbidity, at the system level of care (Bird et al., 2002; Kay-Lambkin et al., 2004; McCarty et al., 2010; Minkoff, 2014). It is possible that a lack of available quality evidence has prevented the development of evidence-based guidelines in this area; however, some preliminary work has been documented. In 2009, the Australian Institute for Primary Care conducted an evaluation of existing models of treatment for comorbidity in Australia, and developed four areas of good practice (AIPC, 2009). These included policies (quality improvement programs), service structure (screening, treatment plans, data collection and feedback), partnerships (linking between services) and workforce (well-qualified staff) (AIPC, 2009). Similarly, in 2006, the US Institute of Medicine proposed six areas of treatment quality specific to the treatment of alcohol drug and mental health disorders, these included: safety, effectiveness, patient centeredness, timeliness, efficiency and equity (Institute of Medicine, 2006).

Findings from the present research encourage the development of best-practice treatment quality guidelines at the service, system and policy level for the treatment of comorbidity in Australia. In particular, findings from this thesis would support the development of best-practice guidelines which aim to improve the continuity and communication of care between services for mental illness and addiction, guidelines for requirements for the education and training of staff within addiction services. Future researchers may look to collaborate with the guide Australian Commission for Safety and Quality in Healthcare to develop frameworks and standards specific to the treatment of comorbidity, as these do not yet exist in Australia.

6.4 Strengths and limitations of the thesis

The major strength of this thesis was its attempt to investigate a number of under-researched and complex constructs, within a particularly vulnerable and difficult to access patient group, using different research methods to examine the issue (Kay-Lambkin et al., 2004; Thomson et al., 2008). This research thesis provides a valuable step in knowledge and in understanding of the quality of existing treatments for patients with comorbidity. However, findings should be considered in light of their limitations. It is possible that methodological weaknesses contained in this research likely reduced the validity of findings. This section presents strengths and limitations underlying the research thesis as a whole.

A considerable strength of this thesis was the mixed-methods research approach. Mixed-methods designs allow a comprehensive investigation of the research question, and attempt to minimise the limitations associated with individual qualitative and quantitative methods (Creswell, 2013). The qualitative study provided rich, detailed insights into patients' experiences of treatment. Conversely, the quantitative study obtained patient and treatment related data from a representative sample of patients in treatment, to enhance the generalisability of findings. The convergence of results produced from each individual study improved the validity of the overall thesis findings. However, the methodological approach of the thesis was also considered a limitation. *Study two* and *study three* assessed patient experiences at only one point in time, using cross-sectional research methods (Thomson et al., 2008; Walton et al., 1998). The major limitation of cross-sectional research is that no causal relationships can be inferred. Although there is some evidence to suggest that enhancing the quality of treatment improves both treatment and patient related outcomes (Boden & Moos, 2009; Garnick et al., 2002; Krupski, Campbell, Joesch, Lucenko, & Roy-Byrne, 2009); it was not possible to investigate this in the present thesis.

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Another strength of this research was the focus on the patient perspective of care. The patients' perception is often neglected in this research context, due to the difficulties with accessing the patient group, characteristics of the group and possible risks to validity (AIHW, 2005; Blume, Davis, & Schmaling, 1999; Langle et al., 2003; Ruggeri, 1994; Walton et al., 1998). *Study two* and *study three* focused solely on patients' experiences of treatment and their findings are a valuable contribution to current knowledge. However, the focus on the patients' perspective of care may also be considered a limitation of the thesis. Firstly, this research relied heavily on self-reported measures. Previous authors have raised concern over the use of self-reported measures in SUD groups, as patients with SUDs tend to under-report their substance use and minimise problems relating to their use (Del Boca & Noll, 2000; Duke, Pantelis, McPhillips, & Barnes, 2001). Similarly, patients may have answered in a socially desirable way, or might have been untruthful in their responses. Previous studies also argue that the patients' perspective of SUD treatment is likely to contain errors, due to the high incidence of cognitive impairment (Blume et al., 1999). A significant strength of this research was the exclusion of patients with mild to severe cognitive impairment, to reduce the risk of bias in findings. However, the exclusion of patients with cognitive impairment may have substantially reduced the generalisability of findings to 'real-world' samples (Humphreys & Weisner, 2014). This is important to consider, as the rate of cognitive impairment in AUD treatment samples ranges from 50% and 80% (Bates, Bowden, & Barry, 2002). This research would have been strengthened by an incorporation of other perspectives of care including staff and service directors, to reduce the risks associated with assessing only one aspect of care.

Another strong aspect of this thesis was the inclusion of four different modalities of treatment: inpatient hospitalisation, outpatient, inpatient detoxification and residential/therapeutic community. One of the criticisms of addiction research, is that patient

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recruitment tends to be restricted to one specific service or setting (Roy-Byrne et al., 2014); and it is unclear whether findings can be applied to other modalities of treatment. The inclusion of several treatment modalities aimed to improve the representativeness of findings to other treatment seeking groups. However, there exist a number of other treatment modalities for addiction which were not included in this research, i.e. group counselling services, 12-step programs (i.e. Alcoholics Anonymous) and self-help treatments. Findings may not be representative of the experiences of patients seeking treatment at alternative services. In addition, the services included in this research operated under the one publicly funded governing body. Previous studies highlight large variations in the treatment philosophies across SUD treatment services, which often result in differing treatment goals and priorities (Weisner & Room, 1984). The findings produced from this research may not be generalisable to patients' experiences of other services in Australia or around the world (i.e. privately funded or not-for-profit services).

This research may have contained sample bias. Firstly, the sample of patients in both *study two* and *study three* were mostly male, of white ethnicity and were highly educated. Such sample bias is likely to have reduce the generalisability of findings to patients in AUD treatment without these demographic characteristics. In addition the data presented in this research comes from patients who chose to stay engaged in treatment for at least five days. It is possible that the sample was overly representative of patients with good experiences of treatment, who may have been more likely to have positive outcomes after treatment. Patients who did not access or stay in treatment may have experienced unmet need or may have been subjected to a breakdown in CoC. Future research in this area should seek to recruit patients from waiting lists and those who prematurely discharge themselves from treatment, to reduce the risk of sample bias. Similarly, future research should seek to assess and control for patients' time-in-treatment when assessing treatment quality. This research identified that

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being an inpatient in hospital was associated with significantly poorer satisfaction with treatment. It is possible that patients most ill in hospital held global negative views and outlooks. Future research might also try to better understand peoples thinking styles and personality constructs that might explain variation in attitudes and beliefs about treatment.

A strength of this research was the inclusion of mental conditions in the classification of comorbidity, in *study two* and *study three*. Whilst many researchers might consider the inclusion of mental conditions in the classification of comorbidity as unsuitable, emerging research suggests that mental conditions have significant negative impact on patient prognosis, outcomes and on healthcare costs (Druss & Rosenheck, 2014; Mills et al., 2010). Similarly, the inclusion of mental disorders in the classification of comorbidity does contain limitations. Firstly, past diagnoses of mental disorders are believed to be largely inaccurate for patients in treatment (Drake, Alterman, & Rosenberg, 1993). Secondly, assessment of the presence of 12-month of lifetime mental disorders diagnoses for patients may have failed to capture patients who were displaying anxiety and depression at the time of treatment. The inclusion of mental conditions, as opposed to mental disorders, captured the experiences of patients who were presenting with clinically significant symptoms of depression and anxiety which required intervention at the time of treatment. The Depression Anxiety Stress Scale was considered an appropriate instrument to determine patient comorbidity status, as it minimises somatic symptoms of anxiety, which are commonly associated with alcohol withdrawal syndrome (Lovibond, 1998). Future researchers wishing to include mental conditions in the classification of comorbidity are encouraged to consider the methods utilised in this research thesis to build on these data and to allow comparability.

Finally, another limitation of this research was that treatment quality was only assessed according to three indicators: CoC, treatment need and patient satisfaction, as these indicators were identified as requiring further investigation in the National Comorbidity

Initiative. However, there remain a number of indicators for assessing quality in treatment. Recent research highlights the need for selective and standardised measures of treatment quality (McCarty et al., 2010). The National Health Performance Framework in Australia considers healthcare quality to consist of a broad range of indicators, including: safety, responsiveness, efficacy and sustainability, effectiveness, CoC and accessibility (AIHW, 2009). It is possible that an examination of other indicators of treatment quality may have yielded different results.

6.5 Future research directions

Findings produced from this research add valuable contributions to the current literature, and provide a platform for future studies. The most critical issue outstanding in the literature, is the lack of evidence demonstrating the link between treatment quality and enhanced outcomes for patients and the healthcare system (McCarty et al., 2010). One of the major barriers to this research is the lack of uniformity in the application and assessment of quality indicators, in this treatment context. A recent study stated that policy makers require standardised measures of treatment quality, which can be applied and monitored across different services and programs (Hermann & Palmer, 2014). Likewise, authors advocate for the development of performance measures that are operationalised clearly and consistently as to meet the unique needs of the patient group (McCarty et al., 2010). Findings produced from *study one* provide a substantial contribution to the literature, providing a platform on which future researchers can work towards implementing and measuring CoC in a multidimensional and standardised way. Findings from the review also uncovered a number of methods for assessing CoC in the treatment of comorbidity. Two multidimensional validated instruments were identified, including: the Alberta Continuity of Services Scale for Mental Health (ACSS-MH) (Adair et al., 2005a) and the Continuity of Care Practices Survey (CCPS-I)

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(Schaefer et al., 2011; Schaefer, Harris, Cronkite, & Turrubiartes, 2008; Schaefer, Ingudomnukul, Harris, & Cronkite, 2005). However, these instruments only assess CoC from distinct perspectives of care. Future work should look to developing a validated multidimensional instrument which assesses CoC in the treatment of comorbidity, from multiple stakeholder perspectives (patient, staff, medical record data).

Findings produced from this research identified a number of suggestions for future studies wishing to assess the link between treatment quality and outcomes. First, future studies should look to adopt prospective cohort designs including randomised trials and recruit large sample sizes. As previously mentioned, there remain a number of challenges with recruiting and retaining patients with commodity in prospective research; and novel ways for retaining patients in long-term research is needed. One viable option might be to encourage audits of clinical service use data, without the explicit consent of patients. This would allow for the collection of valuable data to inform best practice guidelines. Future studies are also encouraged to track patient prognosis over long periods of time. The majority of prospective studies assess pre and post treatment outcomes (Drake et al., 1996). This is a significant limitation of the current literature, as 40-60% of patients relapse to substances within 3-months post discharge, and 70-80% within the first year (Bradizza, Stasiewicz, & Paas, 2006; Hunt, Barnett, & Branch, 1971; Lowman, Allen, & Stout, 1996). Future studies should also strive for consistency in the patient and treatment-related outcome measures, to allow for convergence of research findings. Future studies are encouraged to employ validated instruments and assess treatment quality from multiple perspectives of care. Whilst there exist some validated instruments assessing constructs such as CoC and satisfaction with treatment, these are limited to assessing the views of one stakeholder. Future researchers might look to combine existing validated instruments to incorporate the assessment of multiple aspects of care.

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If future studies validate that improvements to treatment quality enhance patient and treatment related outcomes in the treatment of comorbidity, there then exist a need for cost-benefit analysis research. Government regulators, policy makers and service directors require solid evidence showing the value of costly structural changes and increases to healthcare resources to justify changes to the system (Garnick et al., 2002; McCarty et al., 2010). There is increasing information available as to the healthcare and societal costs of alcohol misuse in Australia (AIHW, 2006; Collins & Lapsley, 2008; Van Amsterdam & Van den Brink, 2013); however, researchers argue that cost-benefit analyses are made difficult due to the issues associated with the privacy of available data (Navarro, Doran, & Shakeshaft, 2011). The author is unaware of any cost-benefit analysis research assessing the economic benefit of improvements to the treatment of comorbidity in Australia. In particular, this research identified a number of methods for improving the treatment of comorbidity in existing disease-specific services (i.e. staff education and training, and better technological systems). Future researchers are encouraged to include an assessment of the economic impact of changes to the quality of treatment for patients with comorbidity.

The classification of comorbidity contains a number of heterogeneous sub-groups. AUDs, affective and anxiety disorders co-occur frequently (Burns et al., 2005), whereas cannabis use disorders are more common amongst patients with schizophrenia (Latt et al., 2011). Some researchers advocate for controlled research of particular sub-groups of comorbidity, as the treatment needs of patients largely differ between groups at the clinical level (Kay-Lambkin et al., 2004). However, other researchers have encouraged research samples which include diverse patient diagnoses, to enhance the representativeness of findings at the system level of care and the ability to conduct cost-effectiveness research (Roy-Byrne et al., 2014). Researchers are encouraged to include all patients meeting the comorbidity criteria which are relevant to the treatment services included in their research,

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and not restrict their samples to one type of comorbid diagnosis. Such inclusions are likely to improve the usefulness and practicality of future research findings to clinical practice.

Lastly, future research is needed to compare the quality of treatment amongst patients with and without comorbidity, according to other indicators of treatment quality. The *effectiveness* of treatments interventions is considered an important indicator of treatment quality (AIHW, 2009), but was not directly assessed in this research thesis. However, results produced from *study two* did identify that patients with comorbidity were more dissatisfied with the effectiveness of medication interventions, when compared to patients with single diagnoses. This finding may support pre-existing literature stating that existing pharmacological interventions are not highly effective for patients with comorbidity (Carroll & Rounsaville, 2014; Kelly, Daley, & Douaihy, 2012; Pettinati et al., 2000; Swartz et al., 2014). Future studies should aim to include indicators such as these when comparing the quality of existing disease-specific treatments, among patients with and without comorbidity.

6.6 Concluding statement

The series of studies presented in this thesis add valuable information and insights as to patients' beliefs about the quality of existing treatment for comorbidity in existing SUD services. Findings indicate that overall, patients with comorbidity who engage in the initial stage treatment report comparable experiences of the treatment quality indicators, CoC, treatment need and patient satisfaction when compared to patients with single disorders. Thus, in this research context, existing treatments appear to be suitable for patients with comorbidity at the commencement of treatment. However, this research did uncover scope for improvements to existing treatment, to better meet the needs of patients with comorbidity in order to continue their engagement in treatment. This research outlines practical suggestions at the clinical, administrative and system levels of care. Clinicians, service

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directors and policy makers are encouraged to consider employing performance measures, better technological systems, institutional supports for staff, monitoring staff caseloads and rosters, education and training of staff in the treatment of comorbidity and best-practice guidelines for the upper levels of healthcare administration. Attending to these greater areas of need for patients with comorbidity may encourage patients to engage in ongoing treatment and services. The findings and implications should be considered in light of the sample biases, particularly that the sample of patients included in this research had been engaged in treatment for at least five days. Future research should look to conduct prospective studies which aim to determine if improving the quality of treatment reduces the burden on the healthcare system and ultimately enhances outcomes for the patient with comorbidity.

Postscript

The findings and recommendations of the thesis will be provided to clinicians and service directors at Drug and Alcohol Services South Australia, to assist with improving the delivery of treatment at the services included in this research. Patients who expressed an interest in the research will also be provided with the research results.

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CHAPTER 8. APPENDIX**Appendix 8.1. Full search terms**

(Alcohol-Related Disorders[mh] OR Alcohol-Related Disorder*[tiab] OR Alcohol-Induced*[tiab] OR Alcohol Cardiomyopath*[tiab] OR Alcohol Liver Disease* OR Alcoholi*[tiab] OR Delirium Tremens[tiab] OR Alcohol Withdrawal[tiab] OR Alcohol Related*[tiab] OR Alcohol Use Disorder*[tiab] OR Alcohol addiction[tiab] OR alcohol dependen*[tiab] OR dipsomani*[tiab] OR ethanol dependen*[tiab] OR problem drinker*[tiab] OR alcohol myocardiopath*[tiab] OR alcohol hepatitis[tiab] OR alcohol poisoning[tiab] OR alcohol intoxication[tiab] OR ethanol intoxication[tiab] OR ethanol poisoning[tiab] OR ethanol toxicity[tiab] OR ethanol abuse[tiab] OR alcohol abuse[tiab] OR Korsakoff Syndrome[tiab] OR ethanol[tiab] OR Alcohol*[tiab] OR problem drinker*[tiab] OR Alcoholism[tiab] OR Alcohol drinking pattern[tiab] OR chronic alcohol intoxication[tiab] OR Alcohol heart muscle disease[tiab] OR alcohol polyneuropathy[tiab]OR Alcoholi*[tiab] OR withdrawal syndrome[tiab] OR withdrawal symptom[tiab] OR abstinence symptom[tiab] OR abstinence syndrome[tiab] OR craving[tiab] OR drug withdrawal syndrome[tiab] OR neonatal abstinence syndrome OR substance withdrawal syndrome[tiab] OR alcoholic intoxication[tiab] OR alcohol dependent individual[tiab] OR alcoholic individual[tiab] OR alcohol neuropathy[tiab]OR alcoholic polyneuropathy[tiab] OR chronic alcoholism[tiab] OR alcohol polyneuritis[tiab] OR Substance-Related Disorders[mh] OR Substance-Related Disorder*[tiab] OR Substance-Induced*[tiab] OR Substance Cardiomyopath*[tiab] OR Substance Liver Disease* OR Delirium Tremens[tiab] OR Substance Withdrawal[tiab] OR Substance Related*[tiab] OR Substance Use Disorder*[tiab] OR Substance addiction[tiab] OR Substance dependen*[tiab] OR Drug-Related Disorder*[tiab] OR Drug-Induced*[tiab] OR Drug Cardiomyopath*[tiab] OR Drug Liver Disease* OR Delirium Tremens[tiab] OR Drug Withdrawal[tiab] OR Drug Related*[tiab] OR Drug Use Disorder*[tiab] OR Drug addiction[tiab] OR Drug dependen*[tiab])

AND

(Substance Abuse Treatment Center*[mh] OR Substance Abuse Treatment Centre*[mh] OR Drug Rehabilitation Center*[tiab] OR Drug Rehabilitation Centre*[tiab] OR Drug Abuse Rehabilitation Center*[tiab] OR Drug Abuse Rehabilitation Centre*[tiab] OR Drug Treatment Center*[tiab] OR Drug Treatment Centre*[tiab] OR Drug Dependence Treatment*[tiab] OR Drug Dehabituation*[tiab] OR Drug Abuse Treatment*[tiab] OR Drug Rehabilitation Program*[tiab] OR Alcohol Rehabilitation Program*[tiab] OR Alcoholics Anonymous[tiab] OR Alcohol rehabilitation[tiab] OR Drug rehabilitation[tiab] OR Detoxification[tiab] OR Sobriety[tiab] OR Alcohol detoxification program*[tiab] OR Substance use treatment: alcohol withdrawal (Iowa)[tiab] OR Drug use treatment: alcohol withdrawal [tiab] OR Rehabilitation[tiab] OR Rehabilitation program[tiab] OR Rehabilitative treatment[tiab])

* Search terms formatted in MeSH for PubMed. Terms were modified in accordance with each electronic databases search requirements.

Appendix 8.2. Log of the electronic database search

Date	Database	Search Terms	Articles identified	Articles exported to Endnote	
INITIAL SEARCH					
4 OCT 2012	Pubmed	Substance	99,876	235	
		Treatment	2,860		
		Continuity	1,398		
	PsychInfo	Substance	97,989	676	
		Treatment	59,346		
		Continuity	18,016		
	Embase	Substance	364,370	300	
		Treatment	303,513		
		Continuity	77,144		
	Scopus	Substance	712,507	1394	
		Treatment	241,334		
		Continuity	444,804		
	Web of Science/SSCI	Substance	503,549	355	
		Treatment	128,642		
		Continuity	50,681		
	Academic Search Premier	Substance	29,463	102	
		Treatment	516,157		
		Continuity	30,133		
	ERIC	Substance	11,924	41	
		Treatment	22,093		
		Continuity	3,226		
	Psych ARTICLES	Substance	3,401	24	
		Treatment	2,071		
		Continuity	458		
CINAHL	Substance	33,586	31		
	Treatment	42,445			
	Continuity	27,083			
5 OCT 2012	Informit/ FAMILY	Titles only (combined search)	9	643	
		Subjects only (combined search)	99		
		Abstracts only (combined search)	330		
	Cochrane Library	Substance	21 555	30	
		Treatment	67 326		
		Continuity	131 918		
	Academic One File	Substance + Treatment + Continuity (Combined search)	13	13	
				TOTAL	3,843

Appendix 8.3. Article inclusion criteria checklist



TODAY'S DATE: ____/____/2012/3

Study Title:

Study Date:

Authors:

Journal:

Exclusion:

	Excluded
Not journal article?	<input type="checkbox"/>
Not in English?	<input type="checkbox"/>
Not human participants?	<input type="checkbox"/>
Not peer-reviewed?	<input type="checkbox"/>
Not original data?	<input type="checkbox"/>
Patients with SUD and mental disorder?	<input type="checkbox"/>
CoC defined?	
CoC measured?	<input type="checkbox"/>
Less than 10 participants?	<input type="checkbox"/>
Participants < 18 years of age?	<input type="checkbox"/>
Qualitative analysis only?	<input type="checkbox"/>

EXCLUDE INCLUDE

Appendix 8.4. Article data extraction form



TODAY'S DATE: ____ / ____ /2013

Study Title:**Study Date:****Authors:****Country conducted:****Study Design:**

Cross-Sectional	
Longitudinal	
Randomised-Controlled Trial	
Cohort	
Prospective	
Case-Control	
Stratified	
Convenience sample	
National sample	

Study Setting:

Inpatient hospital	
Inpatient detoxification	
Outpatient	
Residential/Therapeutic community	
Alcoholics anonymous/12-step program or similar	
Psychological services	
Psychiatry services	
Social work services	
Family services	
Crisis centre services	
Case management services	

Sample Ethnicity:**Sample Mean Age:****Sample Gender:**

Substance use disorder:

Alcohol	
Marijuana	
Cocaine	
Crack Cocaine	
Amphetamine	
Barbiturates (downers) or Other sedatives/ hypnotics	
Opiates/analgesics painkillers	
Hallucinogens	
Inhalants	
Heroin	
Methadone	

SUD assessment/ criteria:**Mental health disorder(s):**

Major Depressive Disorder	
Bipolar Disorder	
Panic Disorder	
Social Anxiety Disorder	
Generalised Anxiety Disorder	
Agoraphobia	
Obsessive Compulsive Disorder	
Post-Traumatic Disorder	
ADHD	
Autism	
Anorexia	
Bulimia Nervosa	
Schizophrenia	
Anti-social PD	
Borderline PD	
OTHER:	

Mental Health assessment/ criteria:**Response Rate:****Definition of CoC:**

CoC instrument/ assessment:

CoC Instrument Validity:

Internal Validity	Construct Validity	External Validity	Criterion Validity	Content Validity	Face Validity

CoC Instrument Reliability:

Test-Retest Reliability	Internal Consistency

CoC Data Collection:

Service data	
Clinical interview	
Questionnaire	
Diary	
Intervention	
Verbally administered survey	
OTHER:	

Groups:

CoC results:

Group:				
N				
Mean age (yrs):				
% male				

Appendix 8.5. Quality criteria assessment



TODAY'S DATE: ____ / ____ /2013

- a) Study design**
1= randomized
0= non-randomized
- b) Sample size**
1= power calculation mentioned
0= power calculation not mentioned
- c) CoC assessed at**
1= > 1 time point
0= 1 time point
- d) Measurement of CoC**
1= standardised instrument
0= non-standardised instrument
- e) Stringency of SUD diagnosis**
1= diagnostic criteria
0= non-diagnostic criteria
- f) Stringency of mental disorder diagnosis**
1= diagnostic criteria
0= non-diagnostic criteria

- Total number of quality criteria met**

Appendix 8.6. Examples of charting techniques

Table 1.
Example of the qualitative definitions of CoC provided by contributing studies

Study details	Multidimensional definition	Singular definition
Adair et al., (2005)	“Complex, multidimensional process that occurs at the interfaces of multiple services in the trajectory of a patient’s care, according to changing needs” pg. 1061	
Claus et al., (2007)		“Transferring clients to less restrictive levels of care when sufficient progress has been made” pg. 32
Greenberg et al., (2002, 2004, 2005)	“All aspects of service delivery... the degree to which services are individualised, culturally sensitive and comprehensive” (Bachrach, 1988) pg. 247	
Ford et al., (2010)		“Linkage to follow-up treatment after detoxification to ensure continuity of care” pg. 304
Schaefer et al., (2005, 2008, 2011)	“Continuity of care practices as services provided to patients during intensive treatment and after discharge such as sending appointment reminders” pg. 1234	

Table 2.
Example of how ‘continuity of the relationship emerged as a core component of CoC

Study details	Descriptions of aspects of CoC assessed	Example item corresponding to aspect of CoC
Adair et al., (2005)	<p>System fragmentation- perceived discontinuity across services</p> <p>Relationship base- perceived importance of a consistent and dependable relationship with the primary caregiver and treatment team</p> <p>Responsive treatment- patient’s experience of specific service actions in response to needs</p>	<p>“I have to deal with a confusing number of agencies and programs”</p> <p>“I am not treated like an individual in this service”</p> <p>“My care doesn’t change when my needs change”</p>
Greenberg et al., (2002)	<p>Regularity of care- evenness in the use of the services overtime and the absence of a hiatus in care</p> <p>Continuity across boundaries- the transition from inpatient to outpatient services or between different types of outpatient services</p> <p>Provider consistency- involvement with a limited number of consistently available clinicians</p>	<p>The number of months in three months in which the patient received outpatient care</p> <p>Whether the patient received any outpatient treatment during the first 30 days and 3-months after inpatient discharge</p> <p>The number of visits and the number of providers (CoC and MMCI formula)</p>
Schaefer et al., (2005)	<p>Provider continuity</p> <p>Maintain contact</p>	<p>“Will most of this patient's continuing outpatient care be provided in your program by the same person who served as the patients’ primary counsellor/ case-manager during intensive SUD treatment?”</p> <p>“Whether staff make reasonable attempts to contact the patient within 3 working days of a missed continuing care outpatient appointment?”</p>

Appendix 8.7. Approval from Royal Adelaide Hospital HREC



Government of South Australia
SA Health

REF: HREC/13/RAH/209

9 July 2013

Miss Stacey McCallum
Room 715, Hughes Building
School of Psychology
University of Adelaide
North Terrace
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Central Adelaide Local Health Network
ROYAL ADELAIDE HOSPITAL

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ABN 80 230 154 545
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Research Ethics Committee
Level 3, Hanson Institute
Tel: (08) 8222 4139
Fax: (08) 8222 3035
Email: rah.ethics@health.sa.gov.au

Dear Miss McCallum,

Re: "Piloting of the satisfaction with treatment services survey."

RAH PROTOCOL No: 130620.

I am pleased to advise that the Research Ethics Committee has granted approval for the above project on the above date. The following documents have been reviewed and approved:

- Piloting Protocol (Version 1.) 15th May, 2013
- Information sheet (Pilot Study) (Version 2.) 27th June, 2013
- Consent form (Pilot Study) (Version 1.) 15th May, 2013
- Supportive organisations contact form (Version 1.) 15th May, 2013
- Screening survey and Mini Mental State Examination (Pilot Study) (Version 1.) 27th June, 2013
- Instructions to participants (Version 1.) 15th May, 2013
- Satisfaction with treatment services survey (Version 1.) 15th May, 2013
- Structured interview schedule (Pilot study) (Version 1.) 15th May, 2013

Please quote the RAH Protocol Number allocated to your study on all future correspondence. Research Ethics Committee deliberations are guided by the NHMRC National Statement on Ethical Conduct in Human Research 2007.

GENERAL TERMS AND CONDITIONS OF ETHICAL APPROVAL:

- Adequate record-keeping is important. If the project involves signed consent, you should retain the completed consent forms which relate to this project and a list of all those participating in the project, to enable contact with them in the future if necessary. The duration of record retention for all clinical research data is 15 years.
- You must notify the Research Ethics Committee of any events which might warrant review of the approval or which warrant new information being presented to research participants, including:
 - (a) serious or unexpected adverse events which warrant protocol change or notification to research participants,
 - (b) changes to the protocol,
 - (c) premature termination of the study,
 - (d) a study completion report within 3 months of the project completion.
- The Committee must be notified within 72 hours of any serious adverse event occurring at this site.
- Approval is ongoing, subject to satisfactory annual review. Investigators are responsible for providing an annual review to the RAH REC Executive Officer each anniversary of the final approval date using the Annual Review Form available at: <http://www.rah.sa.gov.au/rec/index.php> The REC must be advised with a report or in writing when this study is complete so that the file can be closed.

Yours sincerely,

Dr A Thornton
CHAIRMAN
RESEARCH ETHICS COMMITTEE



Government of South Australia
SA Health

REF: HREC/13/RAH/209

9 July 2013

Miss Stacey McCallum
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Research Ethics Committee
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Dear Miss McCallum,

Re: "Patient satisfaction with the treatment of an alcohol use disorder: comparing those with and without co-occurring mental health symptoms."

RAH PROTOCOL No: 130621.

I am pleased to advise that the Research Ethics Committee has granted approval for the above project on the above date. The following documents have been reviewed and approved:

- Study Protocol (Version 2.) 27th June, 2013
- Information sheet (survey) (Version 2.) 27th June, 2013
- Consent form (survey) (Version 1.) 15th May, 2013
- Information sheet (Interview) (Version 2.) 27th June, 2013
- Consent form (Interview) (Version 1.) 15th May, 2013
- Supportive organisations contact form (Version 1.) 15th May, 2013
- Advertising material (Version 2.) 27th June, 2013
- Screening survey (incl. Mini Mental State Examination) (Version 2.) 27th June, 2013
- Interview Schedule (Version 1.) 15th May, 2013

Please quote the RAH Protocol Number allocated to your study on all future correspondence. Research Ethics Committee deliberations are guided by the NHMRC National Statement on Ethical Conduct in Human Research 2007.

GENERAL TERMS AND CONDITIONS OF ETHICAL APPROVAL:

- Adequate record-keeping is important. If the project involves signed consent, you should retain the completed consent forms which relate to this project and a list of all those participating in the project, to enable contact with them in the future if necessary. The duration of record retention for all clinical research data is 15 years.
- You must notify the Research Ethics Committee of any events which might warrant review of the approval or which warrant new information being presented to research participants, including:
 - (a) serious or unexpected adverse events which warrant protocol change or notification to research participants,
 - (b) changes to the protocol,
 - (c) premature termination of the study,
 - (d) a study completion report within 3 months of the project completion.
- The Committee must be notified within 72 hours of any serious adverse event occurring at this site.
- Approval is **ongoing**, subject to satisfactory annual review. Investigators are responsible for providing an annual review to the RAH REC Executive Officer each anniversary of the final approval date using the Annual Review Form available at: <http://www.rah.sa.gov.au/rec/index.php> The REC must be advised with a report or in writing when this study is complete so that the file can be closed.

Yours sincerely,

Dr A Thornton
CHAIRMAN
RESEARCH ETHICS COMMITTEE

Appendix 8.8. Approval from University of Adelaide HREC**Human Research Approval Notification**

Patient satisfaction with the treatment of an alcohol use disorder: comparing those with and without co-occurring mental health symptoms

Office Use Only

RM Code:	0000017086	Revision Number:	1
Received Date:	30/07/2013	Printed Date:	18/06/2014

Project Start Date 05/08/2013

Project End Date 31/12/2013

1. Human Ethics Research Approval

Approval Obtained From Royal Adelaide Hospital Research Ethics Committee

Approval Number 130620 130621

Approval Date 09/07/2013

2. Chief Investigator Details

Name Miss Stacey Lee McCallum
 Work Phone 83310057
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3. Co-investigator Details

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Department	General Practice
University Classification	Academic
University Type	Staff Member
Employing Institution if title holder	n/a

4. Project Aim & Description

Aim	Interviews aim to investigate the role of continuity of care, unmet needs and patient satisfaction amongst patients receiving alcohol treatment, with and without co-occurring mental health symptoms. These objectives aim to identify the factors which are specific to the care of patients who suffer from mental health symptom comorbidity, whilst undergoing alcohol treatment. Surveys aim to explore how satisfied patients are with current alcohol treatment services, and aim to determine the impact of a number of previously under-research variables on patient satisfaction with treatment, including: addiction severity, motivation to change addictive behaviour, satisfaction with life, personality characteristics and cognitive ability. Surveys also aim to determine if patients who suffer from co-existing mental health symptoms are more or less satisfied than patients without co-occurring symptoms, with current alcohol treatment. It is with these objectives, surveys aim to identify the factors which are associated with patient satisfaction with care, in order to inform research and clinical practice and to ultimately improve the delivery of care to patients with mental health symptom comorbidity in alcohol treatment.
Description	Participants who are currently undergoing treatment for an alcohol use disorder, who also meet the projects study inclusion criteria, will be asked to participate in a questionnaire. Approximately 100 participants from three different treatment sites: Drug and Alcohol Resource Unit at the Royal Adelaide Hospital, Withdrawal Services and Glenside Hospital and The Woolshed Rehabilitation Unit at Ashbourne, will be screened for participation. Participating in this survey involves patients to complete a series of questions

regarding their alcohol use, motivation to change alcohol use, cognitive ability, satisfaction with life, personality and satisfaction with treatment services. Some participants who have completed the survey will be invited to take part in an interview with the primary investigator. This interview involves responding verbally to a series of questions that seek to explore patients perception of a number of factors including satisfaction with treatment, continuity of care and unmet needs.

5. Project Scope

Scope Classification	Human Research Scope/Non-Invasive
Project Location	Drug & Alcohol Resource Unit, Royal Adelaide Hospital Withdrawal Management Services, Glenside Hospital The Woolshed Rehabilitation Unit, Ashbourne
Sponsor/Source of Funding	This project is not in receipt of any funding.

6. Indemnification

Indemnification by Sponsor	No
Indemnification by Hospital	No
Indemnification by University	Yes

7. Participant Numbers and Potential Risk

Year	Number
2013	100
Total	100

Potential Risks To Participants	We predict that although questions are unlikely to cause any physical or psychological harm or distress; participants will be provided with details of supportive organisations (Appendix E), who can be contacted in stressful situations. In addition, participants will be encouraged to speak with the clinician responsible for their care if survey or interview questions provoke any discomfort. Participants are able to skip questions or withdraw from surveys or interviews at any time, without any negative consequences to their care.
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8. IP and Ownership

Is there an Intellectual Property Agreement in place?	No
Is there an Ownership and Use Agreement in place?	No

Appendix 8.9. Research approval from Drug and Alcohol Services South Australia



161 Greenhill Road
Parkside SA 5063
Tel (08) 8274 3333
Fax (08) 8274 3399
ABN 30 206 083 199
www.dassa.sa.gov.au

2013-03111

Ms Stacey McCallum
School of Psychology
Hughes Building
The University of Adelaide
Adelaide SA 5005

6 May 2013

Dear Ms McCallum

Re Research Application: Patient Satisfaction with the Treatment of an Alcohol Disorder – Comparing those with and those without Comorbid Mental Health Concerns.

Thank you for your application to undertake research on DASSA clients who are receiving treatment for an alcohol use disorder.

I am pleased to grant you approval subject to the following conditions:

1. Ethics approval is received from a SA Health Human Research Ethics Committee.
2. Access to clients at the Withdrawal Services Unit at Glenside Health Services is negotiated with Ms Kathy McKenna, Director Residential and Clinical Outreach and Director of Nursing, prior to commencement.
3. You understand and accept that access to clients at the Glenside Withdrawal Services Unit may be denied or delayed depending on DASSA's assessment of whether the research would adversely impact the operation of the unit.

It is clear from your application that you are well aware of the transition of DASSA's Withdrawal Services to Glenside in the middle of this year and you appreciate that the successful establishment of the Unit is a high priority for us. Wisely you have indicated a number of other DASSA services from which you hope to recruit subjects and the managers of those units have been contacted by us and are supportive of your research project.

As you go through the process of seeking ethics approval from SA Health, you will also need to get approval from us for the Site Specific Assessment. You should contact Mr David Watts in regard to both of these matters.

Yours sincerely

Simone Cormack
State Director



Appendix 8.10. Site Specific Assessment approval from the Research Governance Office



Government of South Australia
SA Health

Central Adelaide Local Health Network
Research Governance Office
Level 3, IMVS South Building
Frome Road, Adelaide SA
Australia 5000
T : 08 8222 3839
F : 08 8222 3414

02 September 2013

Miss Stacey McCallum
School of Psychology
University of Adelaide
Room 715 Hughes Building
North Terrace
Adelaide SA 5000

Dear Miss McCallum

HREC reference number: HREC/13/RAH/209

SSA reference number: SSA/13/RAH/232

Project title: Patient satisfaction with the treatment of an alcohol use disorder: comparing those with and without co-occurring mental health symptoms.

RE: Site Specific Assessment Review

Thank you for submitting an application for authorisation of this project. I am pleased to inform you that authorisation has been granted for this study to commence at the following site: **Royal Adelaide Hospital, Glenside Health Service and the Woolshed Therapeutic Community.**

The following conditions apply to the authorisation of this research project. These are additional to those conditions imposed by the Human Research Ethics Committee that granted ethical approval to this project:

Please note the following conditions of authorisation:

1. Authorisation is limited to the site/s identified in this letter only.
2. Project authorisation is granted for the term of your project outlined in Section 9 of the SSA, or until the project is complete (whichever date is earlier).
3. The study must be conducted in accordance with the conditions of ethical approval provided by the lead HREC, SA Health policies, and in conjunction with the standards outlined in the *National Statement on Ethical Conduct in Human Research (2007)* and the *Australian Code for the Responsible Conduct of Research (2007)*.
4. The Coordinating Principal Investigator is responsible for notifying the institution via this Research Governance Office of any changes to the status of the project within a timely manner:
 - a. Proposed amendments to the research protocol or conduct of the research which may affect the ethical acceptability of the project, and which are submitted to the HREC for review, are copied to this research governance office;
 - b. Proposed amendments to the research protocol or conduct of the research which only affects the ongoing site acceptability of the project, are to be submitted to this research governance office;
 - c. Proposed amendments to the research protocol or conduct of the research which may affect both the ongoing ethical acceptability of the project and the site acceptability of the project are to be submitted to this research governance office after a HREC decision is made.
5. A copy of this letter should be maintained on file by the Coordinating Principal Investigator as evidence of project authorisation.
6. Notification of completion of the study at this site is to be provided to this Research Governance Office.

Should you have any queries about the consideration of your Site Specific Assessment form, please contact this Research Governance Office. The SSA reference number should be quoted in any correspondence about this matter.

Yours sincerely

Bernadette Swart

Manager Research Governance, IP and Contracts
Royal Adelaide Hospital and SA Pathology
Ph: 8222 3890
Email: bernadette.swart@health.sa.gov.au
Email: rgipc@health.sa.gov.au

Appendix 8.11. Patient information sheet



Dear Potential Participant,

The University of Adelaide would like to invite you to participate in a survey which investigates your satisfaction with the alcohol treatment you are receiving.

Purpose of this study

The purpose of this study is to give you, the clients of alcohol treatment, a voice to express your satisfaction or dissatisfaction with the delivery of alcohol treatment.

Results produced from surveys will be used to help assist researchers to understand ways to improve the delivery of alcohol treatment. However, you will not directly benefit from this study.

Your rights

This is a research project and you do not have to be involved. If you do not wish to participate, your usual medical care will not be affected in any way. Please remember you can withdraw from the study at any time. Results and data will be treated anonymously and only the primary investigator has access to your personal information. Your name or identity will not appear with any of your results or data. The primary investigator will treat your personal information as confidential. The primary investigator will only discuss your care with your primary clinician in the case you reveal any information where I fear for your safety or the safety of others. In addition, in the case your results indicate high symptoms of anxiety or depression, the primary investigator will notify your primary treating clinician. We believe this important to improve the quality of care you receive and ensure your safety and the safety of others. Research data is potentially subject to disclosure through the processes of law.

Description of the procedure

Participating in this study will involve completing a questionnaire which asks you a series of questions about your satisfaction with alcohol treatment. The survey takes approximately **15 minutes** to complete. **Stacey (PhD student)** will be providing you with this survey and will negotiate collection of the survey with you or with a member of staff.

The survey involves answering questions, some of which are of a personal nature.

Clinicians and treatment staff providing care to you are not directly involved in this study.

The questionnaire should take no longer than *[insert completion time based on piloting]* to complete.

Your safety

There is no foreseeable physical risk for participating in this study.

It is not anticipated that completing the survey will cause distress and you can choose to decline to answer specific questions.

If this research does raise any issues for you, please contact your treating doctors or one of the organisations listed on the 'supportive organisations contact form', who may be able to assist you with substance abuse or mental health concerns.

If you have any questions, you can contact:

- Stacey (PhD Candidate), Phone: 8313 0057, E-mail: stacey.researchstudy@gmail.com

If you wish to speak to someone not directly involved in the study about your rights as a volunteer, or about the conduct of the study, you may also contact the Chairperson, Research Ethics Committee, Royal Adelaide Hospital on 8222 4139.

This research will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research, 2007.

Thank you

Appendix 8.12. Patient consent form



PROTOCOL NAME: Patient satisfaction with the treatment of an alcohol use disorder: comparing those with and without comorbid mental health concerns.

INVESTIGATORS: Stacey M, Professor Deborah Turnbull, Doctor Antonina Mikocka-Walus, Associate Professor Jane Andrews & Doctor Matthew Gaughwin

1. The nature and purpose of the research project has been explained to me. I understand it, and agree to take part.
2. I understand that I will not benefit directly from taking part in the survey.
3. I understand that I will not be identified and my personal results will remain confidential.
4. I understand that I can withdraw from this study at any stage and that this will not affect my medical care, now or in the future.
5. I have had the opportunity to discuss taking part in this investigation with a family member or friend.

Name of Participant: _____

Signed: _____

Dated: _____

I certify that I have explained the study to the patient/volunteer and consider that he/she understands what is involved.

Signed: _____

Dated: _____
(Investigator)

Appendix 8.13. Supportive organisations contact form



In the event that you require further drug/alcohol or mental health support, please contact one of the below organisations:

MENTAL HEALTH SUPPORT

Lifeline.....13 11 14

Assessment and Crisis Intervention Service (ACIS)..... 13 14 65

Suicide Helpline.....1800 771 777

Beyond Blue.....www.beyondblue.org.au

SUBSTANCE ABUSE SUPPORT

Drugs and Alcohol Services South Australia.....1300 131 340

.....www.dassa.sa.gov.au

The Salvation Army.....8408 6900

DRUG ARM.....8296 4777

EMERGENCY ONLY

Emergency (Police, Fire, and Ambulance)000

Police Attendance131 444

Appendix 8.14. Timeline of fieldwork research

	Inpatient hospitalisation	Outpatient	Inpatient detoxification	Residential therapeutic community
SEP 2013	PILOTING			
OCT 2013	INTERVIEWS & SURVEYS	INTERVIEWS & SURVEYS		
NOV 2013				INTERVIEWS & SURVEYS
DEC 2013				
JAN 2014	SURVEYS			
FEB 2014			INTERVIEWS & SURVEYS	
MAR 2014		SURVEYS		
APR 2014				SURVEYS
MAY 2014				
JUN 2014				

Appendix 8.15. Screening instrument

DATE: __/__/____

PATIENT ID: _____

- 1. Do you understand English?..... YES NO
- 2. Are you over the age of 18?..... YES NO
- 3. Is alcohol the main substance you are seeking treatment for?..... YES NO
- 4. When was your last alcoholic drink?..... > 5 < 5
days days
- 5. Do you believe you are still undergoing alcohol withdrawal?..... YES NO
- 6. Do you have a diagnosed mental illness that is NOT being currently treated?
(E.g. schizophrenia, bipolar)..... YES NO

Mini International Neuropsychiatric Interview (MINI 6.0)

Alcohol Dependence

- 7. In the past, have you had 3 or more alcoholic drinks within a 3 hour period on 3 or more occasions? (If yes, administer remaining dependence questions; if no, cease screening)..... YES NO
- 8. In the past, did you need to drink more in order to get the same effect that you got when you first started drinking?..... YES NO
- 9. In the past, when you cut down on drinking, did you hands shake, did you sweat or feel agitated? Did you drink to avoid these symptoms or to avoid being hung-over, for example “the shakes”, sweating or agitation?..... YES NO
- 10. In the past, during the times when you drank alcohol, did you end up drinking more than you planned when you started?..... YES NO
- 11. In the past, have you tried to reduce or stop drinking alcohol but failed?..... YES NO
- 12. In the past, on the days that you drank, did you spend substantial time in obtaining alcohol, drinking, or in recovering from the effects of alcohol?..... YES NO
- 13. In the past, did you spend less time working, enjoying hobbies, or being with others because of your drinking?..... YES NO
- 14. In the past, have you continued to drink even though you knew that the drinking caused your health or mental problems?..... YES NO
- 15. In the past, would you describe feeling a strong craving for alcohol?.. YES NO
3 + questions coded yes= alcohol dependence YES NO

Alcohol Abuse

- 16. In the past, have you been intoxicated, high, or hung-over more than once when you had other responsibilities at school, work or home? Did this cause any problems?..... YES NO
- 17. In the past, were you intoxicated more than once in any situation where you were physically at risk, for example, driving a car, riding a motorbike, using machinery, boating?..... YES NO
- 18. In the past, did you have legal problems more than once because of your drinking, for example, an arrest or disorderly conduct?..... YES NO
- 19. In the past, did you continue to drink even though your drinking caused problems with your family or other people?..... YES NO
1 + questions coded yes = alcohol abuse YES NO

DOES THIS PARTICIPANT MEET THE STUDY CRITERIA? YES NO

If yes, continue to administer MMSE. If no, cease screening.

Mini Mental State Examination (MMSE)		SCORE
21.	What is the year, season, date, day of week, and month? (One point for each correct answer).	/5
22.	Where are we? Prompt for country, state, town, building (e.g. Hospital/home), and floor or room (One point for each correct answer).	/5
23.	Name three common objects slowly and clearly, e.g. “apple”, “table”, “penny”. Ask the patient to repeat them. (One point for each item correctly repeated)	/3
24.	Ask the patient to count backwards from 100 by 7. Stop after five answers. (Alternatively ask them to spell “world” backwards.) One point for each correct answer (or letter).	/5
25.	Ask the patient to recall the objects learned earlier. (apple, table, penny). (One point for each item correctly remembered).	/3
26.	Point to your watch and ask the patient, “what is this?” Repeat with a pencil. (One point for each correct answer).	/2
27.	Ask the patient to repeat this phrase after you “No ifs, ands, or buts.” (One point if successful on first try).	/1
28.	Give the patient a piece of paper and say: “Take this paper in your right hand, fold it in half, and put it on the floor.” (One point for each correct action).	/3
29.	Show the patient a piece of paper with “CLOSE YOUR EYES” printed on it. (One point if the patient’s eyes close).	/1
30.	Ask the patient to write a sentence. (One point if sentence has a subject, a verb, and makes sense).	/1
31.	Ask the patient to copy a pair of intersecting pentagons onto a piece of paper. One point if the figure has ten corners and two intersecting lines.	/1
TOTAL		/30
25 – 30 Normal cognitive function		
21 – 24 Mild cognitive impairment		
10 – 20 Moderate cognitive impairment		
< - 10 Severe cognitive impairment		

DOES THIS PARTICIPANT HAVE A COGNITIVE IMAPIRMENT? YES

NO

If yes, participant to be excluded from study. If no, participant to be included in study

Appendix 8.16. Sampling grids used in the interview recruitment process

Inpatient hospitalisation		Outpatient		Inpatient detoxification		Residential therapeutic community	
MH	nMH	MH	nMH	MH	nMH	MH	nMH
MH	nMH	MH	nMH	MH	nMH	MH	nMH
MH	nMH	MH	nMH	MH	nMH	MH	nMH
MH	nMH	MH	nMH	MH	nMH	MH	nMH
MH	nMH	MH	nMH	MH	nMH	MH	nMH

MH- Extremely Severe Depression and/or Anxiety (DASS-21)

nMH- Single AUD

*Patient treatment experience added to recruitment grids during data collection

(first time seeking treatment vs. multiple previous treatments)

8.17. The semi-structured interview schedule

Key topics	Interview Items
Icebreaker	1. Tell me a little bit about your time here at [treatment service] <i>p.</i> how long have you been here? <i>p.</i> first time receiving treatment?
Satisfaction	2. What parts of your treatment have been working well for you? <i>p.</i> what have you liked? <i>p.</i> <i>what parts of your treatment have you valued most?*</i>
Dissatisfaction	3. What parts of your treatment haven't been working so well for you? <i>p.</i> anything that could have been done differently? <i>p.</i> what would you have changed?
Treatment needs	4. Since being here at [treatment service], can you tell me where your needs have been met? / Where haven't your needs been met?
Continuity of care	5. In terms of the <i>management</i> of your care/treatment, what aspects have been important for you? <i>p.</i> who are some of the people involved in your treatment? <i>p.</i> <i>does anyone provide you care or support outside of this treatment facility?***</i> <i>p.</i> have you sought treatment in the past? <i>p.</i> what are your plans with your treatment after you are discharged from here?/ plans for the future?
Summary	Any other questions or comments you would like to add?

** prompt added after initial piloting*

*** prompt added after first interview at with outpatient*

8.18. The framework method approach

Stage	Analysis description
Familiarisation	The researcher becomes immersed with the data set through the process of verbatim transcription, based on audio recordings. The researcher re-reads transcripts and re-listens to audio recordings to form ideas of key themes. Supplementary notes such as the audit trail and reflexivity considerations are also explored. Transcripts are noted or ‘coded’ line by line using both inductive and deductive approaches.
Identifying a thematic framework	The researcher attempts to understand the data set by determining important themes and groupings and relationships between themes. The researcher also ensures that the research questions are being answered. A working framework is slowly developed.
Indexing	The working framework is applied to transcripts using a series of numerical codes. Codes are applied to all contextual data which identify portions of the data that correspond to a theme.
Charting	The data set becomes reduced through a series of theme charts, which include headings, subheadings and priori research objectives. Each chart includes several participant responses which relate to the theme. All chart data is original contextual data from transcripts.
Mapping & Interpretation	The data is explored to define concepts, determine concept range, linking concepts together and finding associations and explanations in the data. Often diagrams are used in order to map the patterns and connections which have emerged through data analysis.

Adapted from Richie, J., & Spencer, L. (1994). “Qualitative data analysis for applied policy research” in Bryman, A. & Burgess, R.G. (1994). *Analysing Qualitative Data*. Taylor & Francis Books, pp. 173-194.

Appendix 8.19. Framework analysis Stage I: Familiarisation

51 there wasn't any treatment. It's really hard for me to get
52 around, I just drink and stay at home, that is why I want
53 medication... I can't leave the house.

} → lack of patient input: treatment.

54

55 / **What parts of your treatment haven't been working well?**

57 My complaint is this: I was admitted here and there are
58 three groups of people looking after me. There is the
59 medical team, DARU and the psych team. Do you know
60 what I mean when I say the word "handballing"... it's like
61 one group says

62 "well this is a psych-issue"

63 and the other says

64 "oh no, this is for DARU".

65 They're passing my care around, and that is really
66 frustrating from a patients' point of view.

67

68 **How useful has your treatment been?**

69 Not really useful at all, I mean I came in here for

70 withdrawal and that has gone good, but another really

71 frustrating thing is that they're giving me only half of the

72 valium I need. Like they need to give you enough

73 medication so that withdrawal is as comfortable for you

74 as it can be. They were only giving me half of the dose,

75 because they thought I would get addicted to it... unless

dissatisfaction with treatment:

↳ feeling like a burden.

↳ frustration

↳ lack of coordination communication between professionals

→ dissatisfaction with treatment.

} → perceived unmet needs (meds)
↳ lack of control over treatment.

3 ↓
perceived lack of belief(?)
in patient's sense of
→ anticipated failure services

Appendix 8.20. Comparisons of codes assessed by primary and secondary reviewer

	Primary Reviewer	Secondary Reviewer
Participant 008		
Treatment Experience	Involved with substance and mental health services Sexual assault/psychological needs Treatments are effective when provider continuity	Long term involvement with services Sexual assault Dependent on specific clinicians/ Impact of professionals changing job/ Feels like there is no-one to go to
Satisfaction	High satisfaction Relational/provider continuity/ being able to be honest Approachability/ trust Past treatment efficacy with clinician Being able to discuss medical options Patient involvement Relationship with clinician is important/ trust/ honesty/ provider expertise Supportive environment Continuity of care after discharge with clinician with a relationship	Satisfaction with treatment Good relationship with the clinician Trust Past treatment success Perceived clinician caring about patient Perceived clinician effort to understand patient needs Relationship with clinician/ feeling heard/ feeling respected/ given answers (honesty) Comfort of feeling cared for through treatment Repeated access/ continuing engagement with a service/ quality of relationship
Dissatisfaction	Delay with treatment as medical needs prioritised Perceives a lack of support re: accommodation Forced treatment for alcohol Uninvolved in treatment decisions	Physical health: barrier to treatment Lack of good relationships re: accommodation Use of threats

Appendix 8.21. Framework analysis stage II: Development of the working thematic framework

SATISFACTION WITH TREATMENT

1. Relationship with clinician

Supportive
Compassionate
Approachable
Personable/ friendly
Communication/ listening
Cares and wants to help
Does not judge
Tolerates/ flexible
Trustworthy
Being able to be honest
Feeling heard/ listened to

2. Relationship with other patients/residents

Having a support network
Social acceptance
Being around similar people
Having people to turn to
Communication/ listening
Learning from others' experiences
Learning about oneself through others

3. Treatment needs

Psychological/ mental health
Withdrawal/ anxiety
Medication
Physical health
Social
Accommodation
Safety

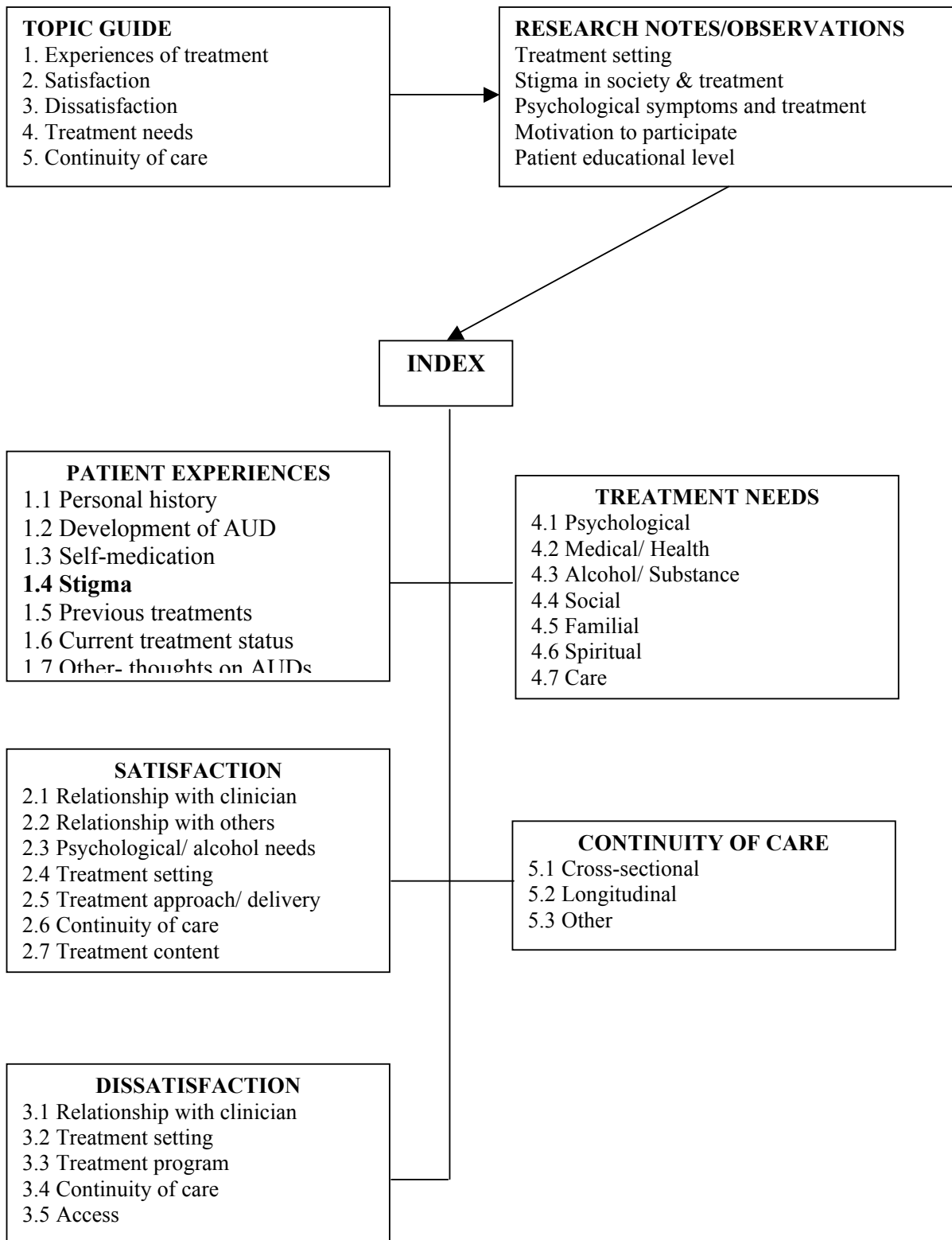
4. Treatment approach/ delivery

One-on-one approach
Tailoring treatment to individual patient needs
Working with patient desires/ patient autonomy
Providing treatment options
Information/ education to make informed treatment choice
Mental health skills
Holistic view of addiction
AUD knowledge/ expertise
Recognition of AUD stage (treat accordingly)
Confidentiality

5. Continuity of care

Continuity between clinicians/ services (working together)
Continuity of clinician relationship after patient discharge
Regularity of care (familiarity/ dependability)
Clinician remembers patient history
Continuity between clinician and program structure
Clinician variety/ having different perspectives

Appendix 8.21. Framework analysis stage II: The identified thematic framework



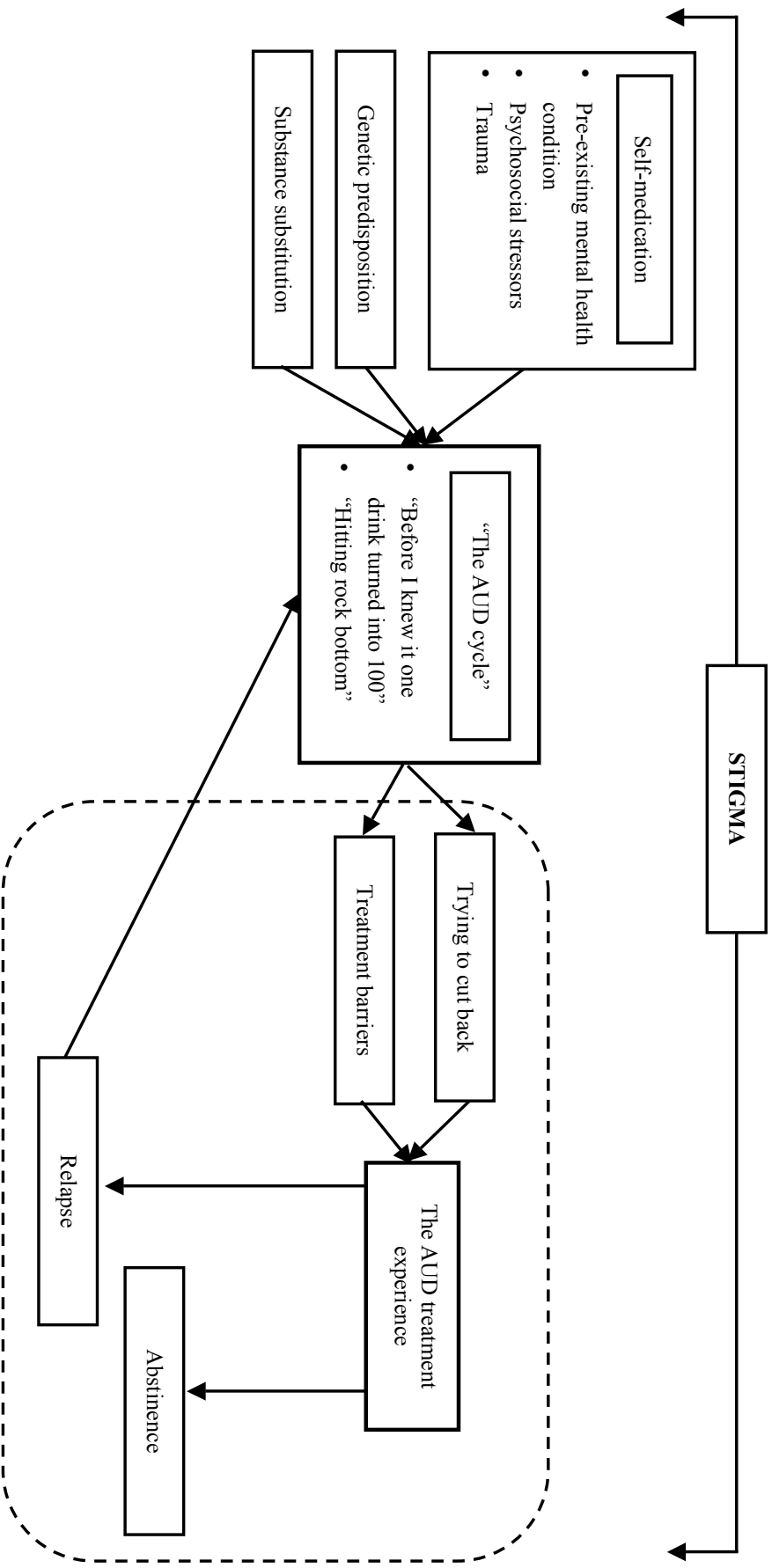
Appendix 8.22. Framework analysis stage III: Indexing transcripts with the thematic framework

	Textual data	Index
I suppose I just really like an inpatient setting, like I work really well when I am		2.4
just completely locked away, without the access or the freedom to drink. And I		2.4
feel like I could do well here, if they kept me here for a longer period of time...		2.4
but they won't. You know, they really lack intensity here in terms of contact... I		3.3
have only seen Drug and alcohol twice, and the first time was just telling them my		3.4
story. You know more contact is needed and more options for medications. If I		3.4
had the capability to stay for a longer time, I could do well.		3.4
There is just nothing much more out there for me. Like another big thing we		3.5
haven't talked about it the finances. You know a lot of alcoholics out there have		4.7
nowhere to go, places are shutting down, Archway and Kuinto both closed.		1.7
I really didn't like the withdrawal system		1.7
and waiting on the waiting list for the woolshed was a joke.		1.7
Did I tell you that story? So you have to ring them twice a week, like a Tuesday		1.5
and a Thursday between like 9:30 and 2 to check in, and then you move up on the		1.5/3.5
waiting list. I got told the wait was 10-12 weeks and I would call and they would		1.5
say		1.5
<i>"we can't tell you where you are on the list"</i>		1.5
and I was waiting over 30 weeks and now I've been taken off completely.		1.5

Appendix 8.23. Framework analysis stage IV: Charting

Participant ID Code	Indices	Patients' satisfaction with treatment Summary
0006	Honesty	The impact of staff personal qualities on patients and its ability to create a sense of normalisation/address stigma. The importance of the interpersonal relationship.
	Trust	The importance of continuity with clinician and the impact of previous effective treatments, installing trust.
	Previous effectiveness	The impact of staff addition expertise and guiding patients in the right direction.
	Expertise	Importance of individualised, patient centred care
0009	Communication	Equipping patients to make informed treatment decisions and active communication and useful interactions.
	Wants to help	
	Providing treatment options	Creating a sense of hope for the patient, influenced by the addiction expertise of the clinician.
	Explaining things to the patient	Treatment should be clear, focused and simple. The disadvantages of over-treatment.

Appendix 8.24. Diagram illustrating all experiences reported by patients in qualitative interviews



Appendix 8.25. The survey



I am happy with my life

Strongly disagree	Disagree	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please tick the box that matches your answer, as shown below:

To change an incorrect response, please cross the incorrect box and tick the correct box:

I am happy with my life

Strongly disagree	Disagree	Agree	Strongly Agree
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The following questions are designed to identify how you personally feel about your drinking right now. Please think about your current situation and drinking habits, even if you have given up drinking completely.
Please tick the box that corresponds with your answer.

Please note that this survey is double sided

There are no right and wrong answers

Please complete all questions in the survey

If you have any queries regarding this survey, please contact the primary investigator on the contact details provided on your information sheet

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
Q1. It's a waste of time thinking about my drinking because I do not have a problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q2. I enjoy my drinking but sometimes I drink too much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q3. There is nothing seriously wrong with my drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q4. Sometimes I think I should quit or cut down my drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q5. Anyone can talk about wanting to do something about their drinking, but I'm actually doing something about it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q6. I am a fairly normal drinker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q7. My drinking is a problem sometimes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q8. I am actually changing my drinking habits right now (either cutting down or quitting)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q9. I have started to carry out a plan to cut down or quit my drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q10. There is nothing I really need to change about my drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q11. Sometimes I wonder if my drinking is out of control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q12. I am actively working on my drinking problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Stacey
School of Psychology
University of Adelaide
South Australia
5000

Each statement below is a belief statement about your problem with alcohol, which you may agree or disagree with.
Please tick the box that corresponds with your answer.

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
Q13. If my problem with alcohol worsens, it is my own behaviour which determines how soon I will feel better again	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q14. As to my problem with alcohol, what will be will be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q15. If I see a professional regularly, I am less likely to have problems with alcohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q16. Most things that affect my alcohol problem happen by chance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q17. Whenever my problem with alcohol worsens, I should consult a health care professional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q18. I am directly responsible for my problem with alcohol getting better or worse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q19. Other people play a big role in whether my problem with alcohol improves, stays the same, or gets worse.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q20. Whatever goes wrong with my problem with alcohol, it's my own fault	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q21. Luck plays a big part in determining how my problem with alcohol improves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q22. In order for my problem with alcohol to improve, it is up to other people to see that the right things happen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q23. Whatever improvement occurs with my problem with alcohol, is largely a matter of good fortune	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q24. The main thing that affects my problem with alcohol, is what I myself do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q25. I deserve the credit when my problem with alcohol improves and the blame when it gets worse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q26. Following professional's orders is the best way to keep my problem with alcohol from getting any worse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
Q27. If my problem with alcohol worsens, it's a matter of fate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q28. If I am lucky, my problem with alcohol will get better	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q29. If my problem with alcohol takes a turn for the worse, it is because I have not been taking proper care of myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q30. The type of help I receive from other people determines how soon my problem with alcohol improves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Each statement below refers to how you have been feeling since _____.
Please tick the box that corresponds with your answer.

	Did not apply to me at all	Applied to me some of the time, to some degree	Applied to me a considerable degree, or a good part of the time	Applied to me much of the time, most of the time
Q31. I found it hard to wind down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q32. I was aware of dryness of my mouth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q33. I couldn't seem to experience any positive feeling at all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q34. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q35. I found it difficult to work up the initiative to do things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q36. I tended to over-react to situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q37. I experienced trembling (e.g. in the hands)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q38. I felt that I was using a lot of nervous energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q39. I was worried about situations in which I might panic and make a fool of myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q40. I felt that I had nothing to look forward to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q41. I found myself getting agitated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q42. I found it difficult to relax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q43. I felt down hearted and blue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q44. I was intolerant of anything that kept me from getting on with what I was doing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3

	Did not apply to me at all	Applied to me some of the time, to some degree	Applied to me a considerable degree, or a good part of time	Applied to me most of the time
Q45. I felt I was close to panic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q46. I was unable to become enthusiastic about anything	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q47. I felt I wasn't worth much as a person	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q48. I felt that I was rather touchy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q49. I was aware of the actions of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q50. I felt scared without any good reason	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q51. I felt that life was meaningless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following section lists some statements about how satisfied you are with the CURRENT treatment you are receiving for your PROBLEM WITH ALCOHOL....
Please tick the box that corresponds with your answer.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Q52. The staff have not always understood the kind of help I want	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q53. I have been well informed about decisions made about my treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q54. The staff and I have had different ideas about what my treatment objectives should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q55. There has always been a member of staff available when I have wanted to talk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q56. The staff have helped to motivate me to sort out my problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q57. I have not liked all of the treatment sessions I have attended	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q58. I have not had enough time to sort out my problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q59. I think the staff have been good at their jobs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q60. I have received the help that I was looking for	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q61. I have not liked some of the treatment rules or regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Q62. Please write any comments in the box below about the treatment you have received here for your problem with alcohol. We would be very interested if you could tell us about how you think we could improve the service.

↑

Below are 5 statements with which you may agree or disagree.

Please tick the box that corresponds with your answer.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
Q63. In most ways my life is close to my ideal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q64. The conditions of my life are excellent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q65. I am satisfied with life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q66. So far I have gotten the important things I want in life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q67. If I could live my life over, I would change almost nothing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5

This section asks questions about your background, employment, health and family relationships, your legal situation and your alcohol and drug use.

Please answer each question as accurately as you can.

Q68. What is your gender?
 Male
 Female

Q69. What is your date of birth?
 Day ____ Month ____ Year ____

Q70. What is your current marital status?
 Never married
 Married
 Separated
 Divorced
 Widowed

Q71. Are you satisfied with your current marital situation?
 Yes
 No
 Indifferent

Q72. Race/ethnicity:
 Caucasian/White
 Indigenous/Torres Strait Islander
 Asian/Indian
 Other European
 Other, please indicate _____

Q73. What is your highest level of education?
 Primary school (Reception- Year 7)
 Middle school (Year 8-9)
 High school (Year 10-12)
 Tertiary (University, TAFE qualification or equivalent)

Q74. What is your usual employment pattern?
 Full-time hours
 Regular part-time hours
 Irregular part-time hours
 Casual hours
 Student
 Retired/disability
 Unemployed

Q75. How many days were you paid for working in the past 30 days?
 Number of days _____

Q76. How much money did you receive from employment in the past 30 days?
 \$ _____

Q77. Do you have a valid driver's licence (not suspended or revoked)?
 Yes
 No

Q78. Do you have a car (or automobile) available on a regular basis?
 Yes
 No

Q79. How many days have you experienced medical problems in the past 30 days (not related to drugs/alcohol)?
 Days _____

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Q80. How troubled or bothered have you been by these medical problems in the past 30 days?
 Not at all
 Slightly
 Moderately
 Considerably
 Extremely

Q81. How important to you is treatment for these medical problems?
 Not at all
 Slightly
 Moderately
 Considerably
 Extremely

Q82. In the past 30 days, have you had a significant period of time in which you have:

	Yes	No	Only when under the influence
a. Experienced serious depression, hopelessness, loss of interest, and difficulty with daily functioning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Experienced serious anxiety/tension, uptight/ unreasonably worried, inability to feel relaxed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Experienced hallucinations- saw things or heard voices that were not there?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Experienced trouble under standing, concentrating or remembering?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q83. In the past 30 days, did you have a significant period (it may have been a direct result of alcohol/drug use) in which you have:

	Yes	No
a. Experienced trouble controlling violent behaviour, including episodes or rage or violence?	<input type="checkbox"/>	<input type="checkbox"/>
b. Experienced serious thoughts of suicide (seriously considered a plan for taking your life)?	<input type="checkbox"/>	<input type="checkbox"/>
c. Attempted suicide?	<input type="checkbox"/>	<input type="checkbox"/>

Q84. How much have you been troubled or bothered by these psychological/emotional problems in the past 30 days?
 Not at all
 Slightly
 Moderately
 Considerably
 Extremely

Q85. How important to you now is treatment for these psychological/emotional problems?
 Not at all
 Slightly
 Considerably
 Extremely
 Moderately

Q86. In the past 30 days, have you been prescribed medication for any of these psychological/emotional problems?
 Yes
 No

Q87. In the past 30 days, have you had a significant period in which you have experienced serious problems getting along with:

	Yes	No	No recent contact
a. Your mother?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Your father?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Your brothers/sisters?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Sexual partner/spouse?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Children?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Q88. In the past 30 days, how many days have you had serious conflicts with your family?	Number of days.			
Q89. How troubled or bothered have you been my family problems in the past 30 days?	Number of days.			
Q90. How important to you now is treatment or counselling for these family problems?	Number of days.			
Q91. How many days did you drink alcohol in the past 30 days?	Number of days.			
Q92. How many days did you drink alcohol to intoxication in the past 30 days?	Number of days.			
Q93. How much money would you say you spent on alcohol in the past 30 days?	Number of days.			
Q94. In the past 30 days, how many days have you experienced alcohol problems?	Number of days.			
Q95. How troubled or bothered have you been by these alcohol problems in the past 30 days?	Number of days.			
Q96. How important to you now is treatment for these alcohol problems?	Number of days.			
Q97. In the past 30 days, have you used any of the following drugs (Not including drugs taken as prescribed by your doctor)	Number of days.			
	No	Yes	No	Yes
Heroin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methadone (illegal)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methadone (legal)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amphetamines (e.g. ecstasy or meth)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Opiates/analgesics/painkillers (e.g. codeine or oxycotin)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barbiturates/ hypnotics/tranquillisers (e.g. sleeping pills, Valium)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cocaine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marijuana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Q98. How many days have you used more than one substance (including alcohol) in the past 30 days?	Number of days.			
Q99. In the past 30 days, how many days have you experienced drug problems?	Number of days.			
Q100. How troubled or bothered have you been by these drug problems in the past 30 days?	Number of days.			
Q101. How important to you now is treatment for these drug problems?	Number of days.			
Q102. Are you presently awaiting charges, trial or sentence?	Number of days.			
Q103. How serious do you feel your present legal problems are?	Number of days.			
Q104. How important to you now is counselling or referral for these legal problems?	Number of days.			

9

THANK YOU FOR
COMPLETING THIS SURVEY



Appendix 8.26. Inductive content analysis of open-ended item of the TPQ

Positive comment/ satisfaction	Negative comment/ dissatisfaction
Treatment staff	
They know what I want and they are helpful	Given valium constantly to prevent withdrawals then suddenly cut-off because a nurse didn't properly fill out or even both to do an observation chart.
Lovely caring staff	
Friendly staff. Always willing to help with phone calls etc.	Sometimes don't understand how anxiety/ withdrawal feels
I feel that they have been supportive and understanding and compassion	The doctor [doctor's name] tends to be very xxx and that's not in a good way
Doctor's name] has been great and very supporting and put me on medication. [Doctor] sent me to see [Psychiatrist name] which helped me a lot as he put me on medication for depression and anxiety.	Listening, not judging, nurses sticking to treatment plan- not being so controlling
	I believe some of the ward nurses could do some training and realise maybe they don't know best. They could consult with the Drug and Alco Services more
Treatment intervention/ program/ service	
The help I have been given was of great benefit to me	Nurses sticking to treatment plan
[Doctor] sent me to see [Psychiatrist name] which helped me a lot as he put me on medication for depression and anxiety.	I'm scared of Antabuse and want other options
The treatment I have had has been good	A very extensive list of alcohol assistance facilities. More extensive and intensive visits. 1 brief visit isn't enough. Longer stay in hospital, perhaps a specific ward for alcoholism
I believe the service and advice given has been more than helpful.	Boredom, being confined to a ward, lack of fresh air.
Generally I find the various branches are well coordinated.	
The utilisation of Baclofen and Doxepin provided a useful 'ground point' to move from	The management from the CEO to managing staff is all over the shop. [Disability service] has not been to see me.