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The Exploratory Evaluation of an Inpatient Model of Care for Adolescents Experiencing Mental Health Problems: A Prospective Longitudinal Study

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Submitted in total fulfilment of the requirements of the degree of

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Department of Psychiatry

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Abstract

Adolescent mental health research is a developing area. Existing treatment guidelines for adolescent mental health care in most western countries emphasise the role of inpatient care when needed. Inpatient units are the most widely used acute element of adolescent mental health services internationally. Yet little is known about inpatient units, their therapeutic operations, models of care and perceived helpfulness. Less is known about general adolescent inpatient units from the perspectives of adolescents, caregivers and clinicians.

In order to address this gap in understanding an adolescent inpatient model of care in operation, a prospective mixed-methods approach was adopted. Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) were collected, measuring global functioning at T1 (admission) and T2 (discharge). Semi-structured interviews were conducted with 16 adolescents and 12 caregivers at T1, T2 and T3 (six months post discharge). Qualitative data were first analysed thematically followed by a trajectory analysis. One-off semi-structured interviews were conducted with clinicians (n=10) and analysed using thematic analysis. Data collection began in May 2017 and ceased in October 2018.

The majority of adolescents (n=72) were 16 years of age (26%), female (82%) and with a primary diagnosis of a mood disorder (57%). HoNOSCA data were completed by clinicians (n=57) and adolescents (n=56). Most adolescents improved at the time of discharge. Self-injury and emotional symptoms had greater reductions according to clinician and adolescent-self-ratings ($p<0.01$). Mean change (improvement) in HoNOSCA total score was 7.3 (SD 7.5) based on clinician ratings and 7.2 (SD 9.5) for adolescent-self-ratings. The mean length of stay was 28 days (SD 15.8).

Interviews with clinicians resulted in the identification of three thematic features of the model of care relating to containment, engagement and therapy. These included; (a) an environment conducive to containment, (b) adolescent engagement through shared experiences and (c) dialectical behaviour therapy embedded culture. Adolescent and caregiver experiences described followed a recovery narrative consisting of three key phases which included, 'waiting for help' (T1), 'help arrived' (T2) and having 'returned to regular life' (T3). The overarching trajectory theme was a 'winding road to recovery'.

Findings revealed the admission was helpful for many young people who were on the winding road to recovery. These findings provide insights into the lived experiences from adolescents who have had an inpatient stay and their caregivers of an adolescent specific inpatient model of care. These findings should be used to improve clinical services and inform research aiming to articulate exemplary adolescent inpatient models of care. Furthermore, the findings provide guidance and practical information to commissioners, clinicians and policy makers implementing models of care. Finally, the detailed findings provide a foundation for planning inpatient care that is valued by clinicians, young people and their families.

Declaration

This is to certify that:

1. This thesis is comprised only of my original work towards the PhD, except where indicated in the Preface.
2. Due acknowledgement has been made in the text to all material used.
3. The thesis is fewer than 100,000 words in length, exclusive of tables, bibliographies and appendices.

Signature: _____

Claire Hayes

December 2019

Preface

None of the work that is present in this thesis has been submitted for other qualifications. There has been no third party editorial assistance in preparation of this thesis. This research was partially funded by Ramsay Healthcare. However, the funders had no role in the design of the study, data collection and analysis. Furthermore, funders were not involved in the decision to publish, preparation of manuscripts or the thesis. The original research publications that are part of this thesis each have a declaration for thesis with publication and co-authorisation forms, which have been signed by the co-authors (Appendices B,C). Work from this thesis has appeared in the following journal publications:

1. Chapter 2: Hayes, C, Simmons M, Simons C & Hopwood M. (2018) Evaluating effectiveness in adolescent mental health inpatient units: A systematic review. *International Journal of Mental Health Nursing*. 27, 498-513.

2. Chapter 3: Hayes, C., Palmer, V.J, Hamilton, B., Simons, C. and Hopwood, M. (2019) What non-pharmacological therapeutic interventions are provided to adolescents admitted to general mental health inpatient units? A descriptive review. *International Journal of Mental Health Nursing*. 28, 671-686.

3. Chapter 4: Hayes, C., Simmons, M., Palmer, V.J, Simons, C. Hamilton, B., and Hopwood, M. (2019) Protocol for a prospective, longitudinal mixed methods case study: Supporting a Model of Care for Healthier Adolescents (The MoCHA study). *BMJ Open.* 2019;9:e025098. doi:10.1136/bmjopen-2018-025098.

4. Chapter 5: Hayes, C., Simmons, M., Palmer, V.J., Hamilton, B., Simons, C. and Hopwood, M. (2019) A profile of adolescents admitted to a private inpatient unit and mental health outcomes. *Australasian Psychiatry*. 1-5.

5. Chapter 6: Hayes, C., Simmons, M., Palmer, V.J, Hamilton, B., Simons, C. and Hopwood, M. (2019) The unheard voice of the clinician: perspectives on the key features of an adolescent inpatient model of care. *Journal of Child and Adolescent Psychiatric Nursing.* 32 (3), 129-138.

6. Chapter 7: Hayes, C., Simmons, M., Palmer, V.J, Hamilton, B., Simons, C. and Hopwood, M. (2020) Experiences of an adolescent inpatient model of care: adolescent and caregiver perspectives*. Journal of Child and Adolescent Psychiatric Nursing.* 1-16.

Publications 1-5 were prepared by CH under the supervision of MS, V.J.P, BH, CS and MH. MS, V.J.P, BH, CS and MH provided supervision, comments and proofreading for drafts and the final versions.

Conference Presentations:

1. Hayes, C., Simmons, M., Simons, C. and Hopwood, M. (2017). 'Youth Takeover Day 2017'. Orygen Youth Health Research Centre. Melbourne, Australia. 31st March 2017

2. Hayes, C., Simmons, M., Simons, C. and Hopwood, M. (2017). Royal Australian and New Zealand College of Psychiatrists (RANZCP) Congress, *'Speaking our minds. Telling*

our stories'. Adelaide Convention Centre, Adelaide, South Australia, Australia. 2nd May 2017

3. Hayes, C., Simmons, M., Simons, C. and Hopwood, M. (2017). Department of Psychiatry Research Symposium*, 'Mental Health in Ageing: A Lifespan Perspective'*. Kenneth Myer Building, The University of Melbourne, Melbourne, Victoria. 10th August 2017.

4. Hayes, C., Simmons, M., Simons, C. and Hopwood, M. (2017). International Association for Youth Mental Health (IAYMH), *'Future-Proofing Youth Mental Health'.* Burlington Hotel, Dublin, Ireland. 26th September 2017.

5. Hayes, C., Palmer, V., Simons, C. and Hopwood, M. *19th Victorian Collaborative Mental Health Nursing Conference*. Moonee Valley Racecourse, Melbourne, Australia. 2nd August 2018.

6. Hayes, C., Simmons, M., Palmer, V., Simons C. and Hopwood, M. *Research at Albert Road Clinic, an update*. Albert Road Clinic. Melbourne, Victoria. 15th November 2018.

7. Hayes, C., Simmons, M., Palmer, V., Simons C. and Hopwood, M. *Primary care 2050: Five ways mental health research is shaping the future of general practice.* The University of Melbourne, Melbourne, Australia. 26th November 2018.

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I am very grateful to the clinicians at the adolescent inpatient unit for their time and support of this research. More importantly, I thank them for their dedication to help young people. I am especially grateful to the parents and young people who took part in this study. Their willingness to share their experiences with me was unforgettable especially when many of these were painful to share. I could not have completed this PhD without their contribution. Furthermore, I believe these interviews have provided me with more knowledge and improved my skills as a clinician in supporting young people and their families.

Most importantly, I would like to thank my beloved husband for supporting me along this PhD journey. I am forever grateful for your IT powers, which saved me from many PhD related technological disasters. To great friends who provided me with all the necessary distractions from research. Finally, I thank my parents who have been my most committed cheer leaders.

Although you were on the other side of the world, no time was unsuitable for you to be able to listen and help.

Dedication

This thesis is dedicated to my parents Marie and James Hayes. You have been with me every step of the way, through good times and bad. Thank you for the love, guidance and support you have given me. Thank you for everything.

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Chapter 1

Introduction and background

1.1 Introduction

Adolescents are one of the most vulnerable populations in terms of susceptibility to mental illness. Whilst many young people who seek support are treated in community and outpatient settings, inpatient interventions are often required when adolescents are considered too unwell to be treated in the community. Therefore, adolescent inpatient units are one of the most important components of acute youth healthcare services. Despite efforts to prevent and minimise the risk for hospitalisation, adolescent inpatient units are necessary and will be for the foreseeable future. Knowledge surrounding adolescent inpatient units and models of care is scarce, yet paramount when caring for young people with a wide range of complex needs. Such information is vital for current adolescent inpatient services as well as future generations to come.

This chapter will provide the background and impetus for this study examining adolescent inpatient care. Section 1.2 identifies the research problem, whilst section 1.3 describes the researcher's engagement with the topic. Reference is also made to factors which led to personal interest in this study. The primary research question and aims are described in section 1.4. Section 1.5 exhibits the rationale for the study, whilst section 1.6 describes the thesis with publication challenges. Section 1.7 demonstrates the contribution to knowledge.

Finally, section 1.8 concludes by outlining the structure of this study. The terms 'young people', 'young adults' and 'adolescents' are used interchangably within this thesis.

1.1.1. Adolescence, mental illness and inpatient services

Adolescence is broadly defined as a unique developmental period marking the transition from childhood to adulthood (Jaworska & MacQueen, 2015). This transition is often associated with a period of increased emotional reactivity and risk-taking behaviours (Casey, Jones, & Hare, 2008). These changes coincide with variance in the school and social environment, where young people are spending less time with their caregivers and more with peers, in addition to an increase in autonomy (Jaworska & MacQueen, 2015). Behavioural fluctuations exist in the context of the developmental changes, which are influenced by both external environmental and internal factors, which elicit and reinforce behaviours (Jaworska & MacQueen, 2015). Adolescence can be conceptualised as a developmental period that is highly variable developmentally and behaviourally (Casey et al., 2008). The exact age range for adolescence has been challenged.

Historically, adolescence was considered to occur between 12 and 18 years of age. In recent years, researchers have argued that adolescence occurs earlier and extends well into adulthood. Neinstein (2009) reports early adolescence as approximately 10 to 13 years age, 14 to 16 years for middle adolescence and 19 to 22 years for late adolescence. Key areas of the brain are developing between ages 10 and 25 (Arain et al., 2013). Consequently, recent publications include youth up to 25 years within the construct of adolescence. Many youth services such as the 'National Youth Mental Health Foundation' are accepting individuals

between the ages of 12 and 25 (D. Rickwood et al., 2019). This developmental period of life make young people particularly vulnerable to mental illness.

Mental illness amongst adolescents is a global health concern. Research in Australia and overseas demonstrates that most of the major mental health problems have their peak period of incidence during adolescence (D. Rickwood, White, & Eckersley, 2007). The World Health Organisation (WHO) claim that 20% of adolescents globally experience mental health disorders such as depression and anxiety (World Health Organization, 2012). Furthermore, approximately one in five adolescents experience serious mental health problems, accounting for an estimated 13% of the total burden of disease (World Health Organization, 2013). The prevalence of mental illness amongst adolescents emphasises the importance of healthcare services for young people, including inpatient services, when required.

Inpatient services are the most specialised form of Child and Adolescent Mental Health Services (CAMHS), providing care for young people with severe mental health disorders. Young people being treated in inpatient units could be considered the most unwell minors in society (Kronstrom, Ellila, Kuosmanen, Kaljonen, & Sourander, 2016). Therefore, careful articulations of inpatient models of care are important when caring for this vulnerable group of young people. In Australia, there are public inpatient services available for young people, which are government funded. For those with private health insurance, there are a small number of private adolescent inpatient units across Australia.

At the time of writing, Victoria's population is approximately 6.5 million people, representing almost a quarter of the national population (Australian Bureau of Statistics, 2019). There are

approximately 1.2 million children and young people between the ages of 10 and 24 in Victoria (Australian Bureau of Statistics, 2019). Approximately three quarters of Victorians live in Metropolitan Melbourne with the remaining quarter living in rural Victoria. In Victoria, there are five general or non-disorder specific public adolescent inpatient units. These are Monash Medical Centre, 'Stepping Stones' (15 beds), Box Hill Hospital's adolescent inpatient unit (12 beds), The Austin Hospital's 'Marian Drummond' unit (11 beds), Melbourne Royal Children's Hospital, 'Banksia' unit (16 beds) and the Orygen Youth Health inpatient unit (16 beds). There are two private adolescent inpatient units, including the unit in the current study. These are, The Wyndham Clinic (12 beds) and The Albert Road Clinic (10 to 12 beds).

1.2 The research problem

In the last few decades, little research has been conducted exploring adolescent inpatient units and their models of care (Hayes, Palmer, Simmons, et al., 2019; Hayes, Simmons, Simons, & Hopwood, 2018; Indig, Gear, & York, 2017). Researchers and clinicians alike are aware that mental health problems are prominent for young people, with many mental health disorders typically emerging in adolescence. Policy incentives urge to prioritise community care as opposed to inpatient care. Government emphasis is often placed on shorter lengths of stay for inpatient admissions. Therefore, identifying an exemplary model of care for adolescents is important to maximise benefit for adolescents admitted to inpatient units.

Existing adolescent inpatient research informs us that admissions are helpful for young people in terms of symptom stabilisation, yet we know very little about how and why (K.R. Delaney, 2019; Hayes, Palmer, Hamilton, Simons, & Hopwood, 2019; Hayes et al., 2018; Lee, Martin, Hembry, & Lewis, 2018). Studies which have examined effectiveness of inpatient units

do not describe their models of care very well. The studies which demonstrate whether or not the inpatient unit 'works', have poor descriptions of the setting, models and approach to care. Therefore, 'if' adolescent inpatient units work, 'how' and 'why' do they work? Despite efforts, we have been unable to locate any research, which has examined adolescent inpatient models of care, particularly from the longitudinal perspectives of adolescents and caregivers, as well as clinicians. This is an important gap in the current literature. To optimise inpatient care, there is a need to understand it from those who experience it directly and are most involved in its operation. This will be discussed in more detail in section 1.5.

Adolescent inpatient research has predominantly focused on measuring treatment outcomes by admission and discharge symptom scores from inpatient units. There is an urgent need to examine the relationships between these variables to explore and analyse the changes in symptomatology across the course of an admission with longer term follow-up. To explore how and why an inpatient model of care might be helpful, we need to ask clinicians who work within the model. Research needs to analyse the changes in symptomatology to assess not only 'if' the adolescent inpatient unit positively influences treatment outcomes, but its relationship with 'how' and 'why'. The voices of adolescents and their caregivers is also imperative to understand how and why a model of care might be helpful.

1.3 The researcher's engagement with the topic

The impetus to embark on this study was originally prompted by having worked for many years in mental health services as a nurse in Ireland and Australia. My experience of predominantly public and private mental health inpatient settings prompted my interest in service delivery. On a personal level, I entered the mental health services in Ireland at a time

where there were prominent changes, which included the introduction of the new Mental Health Act, along with the transition from traditional institutional settings to community contexts (Office of the Attorney General, 2001). Although such changes had been occurring for several years, the extensive development of community services had increased in recent years (Walsh, 2015). These significant changes influenced my interest in optimising inpatient mental health treatment, despite the various changes and challenges which present.

I recall many conversations with young people who had just arrived on the inpatient unit. Some young people were fearful of what to expect from the admission. On some occasions, young people did not want to stay and discharged within a day or so only to return several weeks or months later for a full admission. Others transitioned with ease. I observed the connections between adolescents and their peers who were all sharing emotional pain. I also observed the pain of some caregivers when they needed to leave the hospital after visiting hours had ended. It became apparent that this pain was also shared amongst the staff who were clinically and personally invested in each young person's journey.

Throughout my career, I felt there was a need for nurses to be more involved in research to assist the development of mental health services. This interest became more prominent when I began to work with adolescents in Australia. At the time of writing, the inpatient unit in the current study is one of the few private adolescent inpatient units in Australia. Working within the inpatient unit, I was aware that an admission to an inpatient unit is a unique lived experience for young people. Of course, this does not occur in isolation as this experience extends to their caregivers. I was particularly interested in how one inpatient model of care can help or not help young people presenting with complex needs. I understood that the

voices of adolescents, caregivers and clinicians were most valuable in answering this and thus shaping exemplary adolescent inpatient services. It was my view that this study had the potential to guide and facilitate future adolescent inpatient units. Therefore, my interest in undertaking this research was enhanced as I would be involved in the positive development or improvements of adolescent inpatient mental health services.

1.4 Primary research question and aims

The previous section describes the researcher's interest in the research topic, which developed in clinical practice over many years. It emerged from numerous observations and conversations with the three participant groups and how these collective experiences guide clinical practice and build upon existing theory. The study emerges from a clinician-researcher frame. Therefore, the overarching primary research question is:

'How can understanding a current adolescent inpatient model of care support systematic work to improve mental health outcomes for young people?

To address the overarching research question, there are three specific aims which are as follows:

1. To describe a current inpatient model of care for adolescents.
2. To explore the experiences of adolescents, caregivers and clinicians in relation to the model of care.

3. To evaluate the perceived helpfulness of the model of care on adolescent mental health, symptoms and quality of life from the perspectives of adolescents, caregivers and clinicians.

The primary research question and aims were developed when considering the rationale for the study.

1.5 Rationale for the study

So why do we know so little about adolescent inpatient settings in view of the above overwhelming empirical evidence? Perhaps there are other issues involved and only those working in adolescent inpatient services and service users can provide insight into the current situation.

To date, an 'empirical gap' exists in relation to the lack of research on the voices of adolescents, caregivers and clinicians concerning adolescent inpatient units, and how and why they might be helpful. Furthermore, there appears to be a research gap regarding the perceptions of care-providers and the adolescents, which could contribute to further insight into the current provision of adolescent inpatient services.

According to C. Bobier, Dowell, and Swadi (2009), few researchers have investigated the many nursing and multi-disciplinary aspects of treatment within a naturalistic mental health environment. Hence, there is limited knowledge in which aspects of adolescent inpatient treatment translate from existing evidence to the 'real world' setting, where there is less

control over ‘inclusion’ and ‘exclusion’ criteria. Conducting and presenting research in the ‘real world’ setting was not without its challenges.

1.6 Thesis with publication challenges

Many doctoral candidates are encouraged to publish during their candidature (Mason, 2018). In response to this, many universities support the new thesis with publications (TWP) model. In the current study, presenting this TWP proved challenging. Connecting a series of papers for a coherent single case study created some constraints. Individual papers need to be contextualised and explained to each new audience, which can result in the repetition of ideas (Mason, 2018). In addition, the various audiences and manuscript guidelines of different journals make consistency challenging (Mason, 2018). For example, in the current study, each paper describes a set of data, which is discussed with possible implications, yet stand apart from each other. A further TWP challenge related to papers published earlier in the candidature, which might not reflect changes or improvements made later in the candidature. Unlike a traditional thesis, which is completed at the end of the candidature, these changes become transparent in the TWP, in essence ‘frozen’ in time (Mason, 2018; Moodie & Hopgood, 2012). Despite these challenges, this TWP through a series of papers makes a unique contribution to knowledge.

1.7 Contribution to knowledge

This study contributes to the literature in several ways. Firstly, there is little research exploring adolescent inpatient models of care worldwide. This is one of the first studies to examine closely an adolescent inpatient model of care in operation. This is significant as the prevalence of mental health disorders amongst adolescence is an important issue and well documented.

Yet little is known about the inpatient environment, where young people are cared for when they are most vulnerable. Current studies have not been able to identify key elements of an effective inpatient model of care. Therefore, this study will be an important addition to the literature from an Australian and global perspective.

Secondly, adolescent inpatient studies which exist in Australia and overseas predominantly focus on measuring quantitative therapeutic outcomes and various aspects of this phenomenon. This is one of the first studies to combine quantitative and qualitative longitudinal approaches to understand an adolescent inpatient model of care. The lived longitudinal experiences of adolescents and their caregivers are utilised. Furthermore, clinicians working within the inpatient unit are also included. Literature surrounding inpatient units focuses mainly on adult populations. This study utilises a novel approach to understand an inpatient model of care, making a unique contribution to the current adolescent inpatient literature.

Finally, this study will contribute at a practical level to the existing research. As the literature review will demonstrate, little is known about adolescent inpatient services. This identifies an important gap between what we know about inpatient units and adolescent mental health. This study will therefore contribute to a stronger link between adolescent inpatient models of care and their effect on mental health. This study has implications for clinical practice with adolescent inpatient and potentially outpatient settings. It will also have practical implications to support adolescents, caregivers and clinicians.

1.8 The structure of this study

This thesis consists of 8 chapters, which are outlined as follows:

Chapter 1: Introduction and background

This chapter introduces and positions the study in relation to the research problem, research aims, rationale for the study and its contribution to knowledge. The background for the research is also provided including my own background and engagement as a clinician-researcher within the context of the research topic.

Chapter 2: Evaluating effectiveness in adolescent mental health inpatient units: A systematic review

Chapter 2 introduces the topic of adolescent inpatient units and their perceived effectiveness. In this chapter, a critical account of the literature is provided, focusing on the empirical evidence sourced to date regarding adolescent inpatient units and their effectiveness. How adolescent inpatient outcomes are measured is explored in terms of perceived improvement in mental health symptoms. Key problems are identified which relate to how adolescent outcomes are measured particularly in terms of understanding adolescent inpatient units and articulating what is helpful about an adolescent inpatient model of care.

Chapter 3: What nonpharmacological therapeutic interventions are provided to adolescents admitted to general mental health inpatient units? A descriptive review

Chapter 3 follows by detailing what interventions are being reported within the adolescent inpatient literature. This chapter presents reported nonpharmacological therapeutic interventions provided within general adolescent inpatient units. The purpose of this chapter

was to determine what is known about interventions provided when young people are admitted to general adolescent inpatient units. These interventions are important to understand to decipher key components of an adolescent inpatient model of care and what appears to be most helpful.

Chapter 4: Protocol for a prospective, longitudinal mixed-methods case study: supporting a Model of Care for Healthier Adolescents (The MoCHA study)

Chapter 4 presents the process of investigation in terms of the methodological approach chosen and justification for the research approach adopted. Research aims and objectives, along with the underpinnings of the mixed-methodological framework used to guide the research design and methodological processes are discussed. Furthermore, data collection and analysis procedures are illustrated. The measures adopted to ensure the quality of the current study are also discussed, along with ethical considerations, which remained pertinent to the study.

Chapter 5: A profile of adolescents admitted to a private inpatient unit and mental health outcomes

The quantitative findings of the current study are presented in chapter 5. Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) pre- and post-admission scores were collected, measuring global functioning. Demographic data were collected from all adolescents admitted (n=72) to describe the overall representative sample of adolescents admitted during the data collection period. Demographic variables included age, gender, primary diagnosis, comorbidity and length of stay. HoNOSCA adolescent and clinician reported findings were available for a subset (n=57) of the overall representative sample.

Chapter 6: The unheard voice of the clinician: Perspectives on the key features of an adolescent inpatient model of care

Chapter 6 represents the perceptions of clinicians (n=10) working within an adolescent inpatient model of care in operation. Interviews were conducted with clinicians to explore key features of the model of care. Clinicians included Nursing staff and Allied Health.

Chapter 7: Experiences of an adolescent inpatient model of care: adolescent and caregiver perspectives

In chapter 7, the combined perspectives of adolescents (n=16) and caregivers (n=12) are presented as three key themes. These findings explore the adolescent and caregivers' experiences of an inpatient model of care and perceived helpfulness.

Chapter 8: Discussion

Chapter 8 includes the overall discussion and conclusions from this thesis and ties together each specific aim to show its contribution to providing a step forward in understanding an adolescent inpatient model of care. Strengths, weaknesses, opportunities and threats of the research arising from the research study are presented. The main conclusion of the research study and the main recommendations for practice and service development are portrayed and discussed. The thesis is concluded by providing an overall view of the findings in the context of the aims of this study. The contribution of this study is discussed in relation to the research literature, adolescent inpatient services and policy in the Australian context. Future directions for adolescent inpatient models of care are also outlined in this chapter.

Chapter 2

Evaluating effectiveness in adolescent mental health inpatient units: A systematic review

Adolescent mental health research is a developing area. Inpatient units are the most widely used acute element of adolescent mental health services internationally. Little is known about inpatient units, particularly when it comes to measuring improvement for adolescents. Clinical outcome measurement in the broad context has gathered momentum in recent years, driven by the need to assess services. The measurement of outcomes for adolescents who access inpatient care is critical, as they are particularly vulnerable and are often considered the most difficult to treat. The aim of this review was to assess if adolescent inpatient units are effective and understand how outcomes are measured. CINAHL, MEDLINE with Full Text, ERIC, PsychINFO and Cochrane databases were systematically searched. Studies were included if the inpatient units were generic and adolescents were between the mean age of 12-25 years. Furthermore, studies published in English within the last ten years were included. Exclusions were outpatient and disorder specific inpatient settings. A total of 16 studies were identified. Each study demonstrated effectiveness on at least one outcome measure in terms of symptom stabilisation. However, several outcome measures were used and therefore inpatient units lack consistency in how they measure improvement. Inpatient units are effective for the majority of young people as they result in symptom stabilisation. Whilst symptom stabilisation can be achieved, future research examining the mechanism of change is needed.

2.1 Introduction

Globally, mental illness among adolescents is a critical health concern. The majority of mental health problems have their peak period of incidence during adolescence (Merikangas, Nakamura, & Kessler, 2009; D. J. Rickwood et al., 2015). Approximately one in five adolescents experience serious mental health problems, accounting for an estimated 13% of the total burden of disease (World Health Organization, 2013). Suicide is the second leading cause of mortality among young people between the ages of fifteen to twenty-nine (World Health Organization, 2014). Furthermore, adolescents experiencing mental health problems are more likely to have suicidal thoughts or engage in suicidal ideation (Allen & McKenzie, 2015; Vander Stoep, McCauley, Flynn, & Stone, 2009). Given the vulnerability of this population, it is no surprise that admissions to Inpatient Units (IPUs) are often required.

IPUs are used for symptom stabilisation in the event of psychiatric crisis (Goldman, McCulloch, & Sturm, 1998; Tharayil, James, Morgan, & Freeman, 2012). IPU admissions often occur when adolescents and their caregivers are unable to manage the young person's mental health symptoms at home. Consequently, more intense professional support is required (Sadock, Kaplan, & Sadock, 2007; L. Smith, Strümpher, & Morton, 2015). According to Kronstrom et al. (2016), adolescents being treated in IPUs are considered to be the most distressed in society. As well as having severe mental health disorders, they often have psychosocial risk factors and a history of traumatic life events (B. G. Case, Olfson, Marcus, & Siegel, 2007). Adolescent IPUs introduce intensive interventions for complex disorders over a defined period (Jonathan Green & Worrall-

Davies, 2009). These IPU interventions are often associated with high costs, particularly when clients are admitted for several weeks or months. Consequently, it is important to establish the effectiveness of adolescent IPUs, not only in terms of cost effectiveness, but more importantly, to establish the outcomes for young people and their families.

As mental health demands increase, many inpatient services have been encouraged to reduce costs with a parallel pressure to measure outcomes and effectiveness (Hall et al., 2014). In terms of this review, positive outcomes are related to sustained health improvement of young people. The demand for evidence-based practice (EBP) underpins the need to examine valid and reliable outcome measures, which capture changes in symptoms, functioning and determine effectiveness within the context of short-term interventions (Koch, Lewis, & McCall, 1998; Tharayil et al., 2012). Measuring this change and assessing outcomes provides an evaluation of the service as a whole, as well as highlighting areas for improvement (Yuan, 2015). Whilst this is undoubtedly important, it's perceived difficult to implement and measure outcomes. It is difficult to measure outcomes in IPU settings, particularly when admitting different types of adolescents with various clinical problems and at various time-points. In addition, every IPU is different in terms of typical length of stay (LOS), admission policies, organisational cultures and types of interventions offered. There is a significant time constraint on what can be offered, particularly for short stays of 1-7 days. Each IPU will have a unique model of care, whether it is designed to provide safety and containment within 1-7 days, or perhaps more long term therapy provided within 6-8 weeks. Either way, an inpatient

admission is a critical point in a person's life and it is crucial that clinicians and researchers understand how effective they are.

One key paper by Pfeiffer and Strzelecki (1990) reviewed outcome studies for adolescents in IPU treatment. The review examined the literature from 1975- 1990 and included the results of 34 studies. These papers included children (n=6), adolescents (n=17) and combined children and adolescents (n=11). Studies consisted of both qualitative and quantitative data. 23 studies were designed as post-discharge (follow-up), and the remaining 11 examined patient status at the time of discharge. This review combined follow-up and outcome. Results found that inpatient admissions were often beneficial, particularly if a specialised treatment program and aftercare were available. This review found only four studies, which examined various aspects of inpatient interventions, such as therapeutic alliance, planned discharge, completion of treatment program and the efficacy of a cognitive-based problem-solving skills training package (Clarkin, Hurt, & Crilly, 1987; Gossett, Barnhart, Lewis, & Phillips, 1977; Kazdin, Esveldt-Dawson, French, & Unis, 1987; White, Benn, Gross, & Schaffer-Lopez, 1979). In all four studies, these interventions yielded positive outcomes and predicted a favourable post-discharge status. In terms of aftercare, only four studies were found reporting the relationship of aftercare and the post-discharge environment to outcome(Cohen-Sandler, Berman, & King, 1982; Gossett et al., 1977; Koret, 1980; Stewart & Leone, 1978). All four found a strong positive association. Furthermore, the study found that clients with less symptom severity had more favourable outcomes. Age and sex were not associated with favourable outcomes, and IQ and LOS yielded only a modest relationship to outcome.

Similarly to the previous key paper, Blanz and Schmidt (2000) cautiously convey that inpatient admissions can be beneficial, especially when special aspects of treatment interventions are fulfilled. These include those outlined previously, which include positive therapeutic alliance, planned discharge, completion of a cognitive-based problem-solving skills training package and aftercare. Healthier clients have more desirable outcomes, particularly those with adequate intelligence, later onset of symptoms and non-psychotic diagnoses. Poor family functioning was considered to be an important factor in the outcome of hospitalised adolescents. However, the review found methodological limitations for several studies, making interpretation of results challenging. Lack of research relating to LOS and outcome information was outlined, as well as factors influencing decisions to admit adolescents to IPUs.

Finally, descriptions of models of care in IPU settings remains complex and somewhat mysterious. In the absence of this information, researchers and clinicians alike are unable to distinguish the relationships between a particular model of care and certain outcome variables. Consequently, future studies need to characterise the key components of successful IPU treatment and identify those who respond favourably. In order for this to occur, there needs to be more clarity in relation to how outcomes are measured for young people.

Research in this area is accumulating, however, to the researcher's knowledge, no systematic reviews have been conducted in the last sixteen years. Given that adolescent

IPUs would have changed during this time, there is limited up-to-date research to draw any firm conclusions on the effectiveness of IPUs. To address this research gap and update current practice, the main aim of this review was to assess if generic adolescent IPUs are effective. A secondary aim was to understand ways in which outcomes are measured and what domains are measured.

2.2 Methods

This review utilised the PICOT (population, intervention, control/comparison, outcomes and time) format to frame the research question. A search was undertaken to identify relevant literature pertaining to adolescents, IPUs, mental health and treatment outcomes. Searches of CINAHL (Cumulative Index to Nursing and Allied Health), MEDLINE (Medical Journals), ERIC (Education Resources Information Center), PsychINFO and Cochrane were undertaken. The literature search was limited to studies from the January 2006 to June 2017. The years were limited to ensure the review was based on contemporary practice in adolescent IPUs. Search terms consisted of five concepts, which included adolescent, inpatient, mental health setting, treatment outcome and change (table 2.1). Searches were based on article titles, abstracts, subjects and further studies were selected through hand searching the references of relevant studies and reviews. Articles considered for inclusion were randomly double screened by a co-author. The search methodology and reported results adhere to the relevant sections of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. The review was retrospectively registered with the International Prospective Register of Systematic Reviews (PROSPERO).

Table 2.1: Search Strategy
adolescent* or “young person*” or “youth*” or “young adult*” or teen* or teenager*
inpatient* or "in-patient*" or client or clients or clientele or patient* or "service user*”
“mental health setting*” or "inpatient unit*" or in-patient unit*" or hospitalisation or hospitalization or hospitalised or hospitalized or "acute care" or admission or admissions
“treatment outcome*” or “routine outcome measur*” or “routine outcome*” or measur* or assess* or rate* or tool* or checklist* or screen* or scale* or efficac* or effect* or evalu*
change* or improve* or progress* or deterior*
*Is a wildcard character that may be used in place of any number of characters in a search word.

Inclusion Criteria

- The setting is a generic adolescent inpatient unit.
- Mean age of participants between 12 and 25.
- Written in English with full text available.
- Published between 2006 and 2017.
- Qualitative and Quantitative Studies.

Exclusion Criteria

- Disorder specific settings (Eg. Eating Disorder units, substance abuse units, Bipolar Disorder units, psychosis units, Post-Traumatic Stress Disorder units).

- Community, outpatient and/or forensic settings.
- Intellectual disability population.

2.2.1 Data Extraction

Following the initial search, duplicates were removed. Titles and abstracts were then screened for excluded studies and consequently removed. Once potential relevant articles were identified, the first author inspected these against eligibility criteria for inclusion. Figure 2.1 illustrates the PRISMA flow diagram for inclusion. Data extraction was undertaken from included articles and the following variables were entered into a spreadsheet: age, gender, ethnicity, socioeconomic status, country, diagnoses, sample size, research design, setting, treatment outcomes and follow-up time.

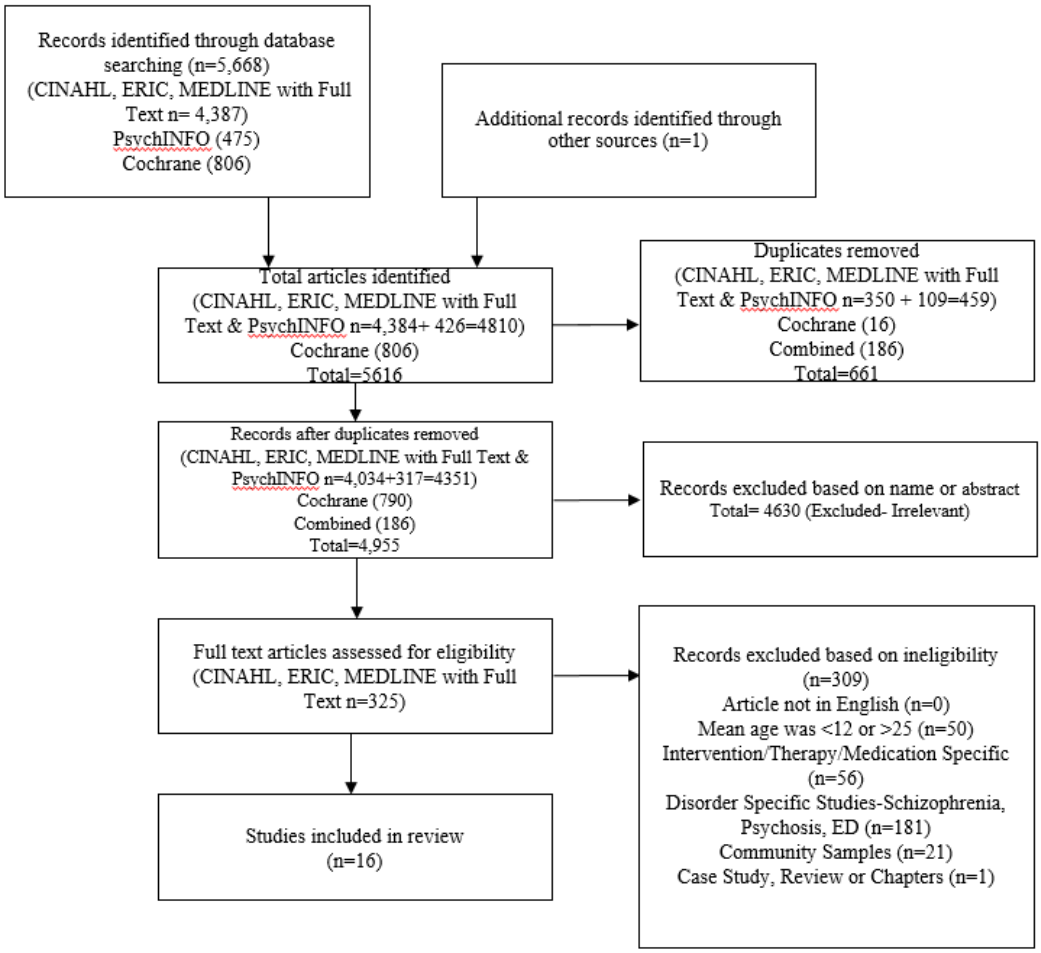

Figure 2.1: PRISMA flow diagram of systematic search procedures, yielding 16 quantitative studies

2.3 Search Results

Despite including qualitative studies in the search strategy, 16 quantitative studies were identified relating to adolescent mental health treatment outcome measurement in generic IPUs (Fig. 2.1). The studies examined mental health treatment outcomes following episodes of inpatient care. The studies predominantly utilised empirical, prospective cohort research designs. Three studies adopted retrospective designs,

whilst two were national outcome studies and a quality improvement project. Outcomes were rated from a range of perspectives including clients, caregivers and clinicians. Whilst some studies investigated one single adolescent IPU, others depicted results from several units. One study examined treatment outcomes for persons with and without intellectual disabilities. For the purpose of this review and in line with our exclusion criteria, results are reported only on those without intellectual disabilities. None of the identified studies used control groups.

2.3.1 Description of Studies and Settings

The details of the included studies are presented in table 2.2. The majority of studies were from the US (n=4) and the UK (n=4). Two studies were from Australia and one from New Zealand, whilst the remaining were from Canada, Japan, Turkey, Switzerland and Norway. Twelve studies presented single IPUs, whilst the remaining included multiple units. Of those who reported, the number of inpatient beds at each IPU ranged from 6 beds to 110, with the lowest from a single IPU in the UK and the latter from a single IPU in the US. Of ten studies which reported on attached services, five had attached outpatient services, whilst five had attached schools. One of these studies had both outpatient services and a school. The inpatient admission inclusion criteria was outlined in five studies. These included the following: a diagnosis of at least one DSM-IV[1] Axis 1 disorder, acute suicidal thoughts, psychosis, severe PTSD and anxiety. Another study described severe hyperactivity, violence to self or others, whilst another was imminent

[1] Diagnostic and Statistical Manual of Mental Disorders. 4th Edition.

threat to harm self or others. Two studies outlined exclusion criteria for inpatient admissions. Those who were excluded were clients with a conduct disorder alone, intellectual disability, Eating Disorders or substance abuse. In terms of staff, nine studies described that the unit/s were staffed by the multi-disciplinary team (MDT). The type of treatment intervention/s provided at each setting were not described in seven studies. Of those, which did report, treatment interventions consisted of the following: Milieu Therapy, Individual and Group Psychotherapy, Psychoeducation, Family Therapy, Music Therapy, Recreational and Sporting Activities. Other interventions included illness and self-awareness education, anger and stress management, problem solving, medication as prescribed and artistic activities. In terms of treatment provided, school related activities were described in a number of studies (n=4).

Table 2.2: Included studies and key characteristics

Author (s) (year)	Research Design	Country	Setting	Treatment	Sample Size N=	Diagnosis % of sample	Mean Age (M) Standard Deviation (SD)	Gender (%) Females (F) Males (M)	Admission Status Voluntary (V) Involuntary (I)	Length of Stay (LOS) Days Mean & Standard Deviation (SD)
(Barnes, 2009)	Empirical, Quantitative Study	US	Single IPU Bed Number: Not Specified. Attached Services: Outpatient Admission Criteria: Diagnosed with at least one DSM-IV Axis I disorder. Staff: MDT	Not Specified	422	Mood Disorders 60.7% Intermittent Explosive Disorder 15.2% Mood Disorder with Psychosis 14%	M= 15.58 SD= 1.07	F= 60%	Not Specified	M=6.12 SD= 6.6
(C. Bobier, Dowell, & Swadi, 2009)	Empirical, Quantitative Study	NZ	Single IPU Bed Number: 8 Attached Services: Outpatient and day facilities. Admission Criteria: Does not accept conduct disorder or substance abuse	Psychoeducation Nursing. Illness Education Anger & Stress Management. Relaxation. Medication Education. Problem Solving. Self-Awareness Education.	46	Mood Disorders 48% Mixed Disorders 33% Psychosis 19%	Mood M=6.18 Mixed M=16.53 Psychosis M=16.78	Mood F=64% Mixed F=87% Psychosis F=44%	Not Specified	M=24.01

			disorder as the sole diagnosis. Staff: MDT	Individual Support. Sporting. Artistic activities.						
(Burgess, Pirkis, & Coombs, 2009)	National Outcome Data Collection	Australia	Multiple Units Description of Setting: Not Specified.	Not Specified	1421	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified
(Chaplin, Roach, Johnson, & Thompson, 2015)	Quality Improvement Project	UK	Multiple Units: 14 Description of Setting: Not Specified.	Not Specified	151	Neurotic/Emotional Disorders (28%) Mood Disorders (23%) Schizophrenia (14%)	M=14.4 SD= 2.51	F=60%	People without ID (V=84%)	People without ID M=78.2-117.0
(Duddu et al., 2016)	Retrospective Review	UK	Single IPU Bed Number: 6 Attached Services: Outpatient Admission Criteria: Eating disorders & intellectual disabilities were excluded, unless the main focus was a mental health related crisis	Not Specified	97	Adjustment, anxiety disorders, PTSD, social phobia (32.6%) Emerging Personality Traits or Disorders (15.8%) Schizophrenia (14.7%)	59.8% (n=58) were 17.	F= 54.6%	V=90.7%	1st Year (M= 30) 2nd Year (M=23.2)

			Staff: MDT							
(Jonathan Green et al., 2007)	Empirical, Quantitative Study	UK	Multiple Units 4 Child 4 Adolescent Bed Number: Not Specified Attached Services: Not Specified. Admission Criteria: Not Specified. Staff: Not Specified.	Structured Milieu Individualised Intervention Strategies Psychological Therapy Medication, Psychosocial Family-Oriented & Educational Interventions.	150	Mood Disorders (43%) Oppositional Defiant Disorder (ODD) (27%)	M= 15.4 SD= .96	F= 46%	Not Specified	M=16.6 weeks SD=12.5
(Greenham & Bisnaire, 2008)	Empirical, Quantitative Study	Canada	Single IPU Bed Number: 18 Attached Services: Not Specified. Admission Criteria: Acute suicidal thoughts, psychosis, nonresponse or severe side effects to medication, severe PTSD or severe anxiety or mood disturbances. Staff: MDT	Not Specified	211	Mood Disorders 46% Adjustment Disorders 9% Psychosis 9%	Crisis M=14.8 SD =2.0 Assessment M=14.9 SD 1.8 Transition M=15.3 SD 1.2	Crisis F= 64% Assessment F=70% Transition F= 80%	Crisis V=69% Assessment V=77% Transition V= 100%	Crisis M=4 Assessment services M=13 Youth referred for inpatient transitional care M=19
(Guvenir, Varoltas, &	Empirical, Retrospective,	Turkey	Single IPU Bed Number: 10	Individual. Parent and Family Therapy.	90	Mood Disorders 37.7% Psychosis	M=15.3	F= 67.8%	Not Specified	M= 77.3 SD 25.5days

Ozbek, 2009)	Quantitative Study		Attached Services: Outpatient Admission Criteria: NS Staff: MDT	Group, Psychological and Physical Therapy. Treatment linked with therapeutic milieu.		24.3% Anxiety Disorders 11%				
(Haggerty, Kahoud, Walsh, Ahmed, & Blais, 2013)	Empirical, Quantitative Study	US	Single IPU Bed Number: NS Attached Services: NS Admission Criteria: NS Staff: NS	Individual Psychotherapy. Group Therapy. Medication as Prescribed. Anger Management. Substance Use Psychoeducation. Academic Programming. Recreation therapy.	75	Mood Disorders 64% Conduct Disorders 30% Psychosis 3%	M=15.7 SD 1.19	M= 52%	Not Specified	M= 10.81 days. SD=5.23
(Hanssen-Bauer et al., 2011)	Empirical, Quantitative Study	Norway	Multiple Units: 4 Bed Number: 31 Attached Services: Outpatient and School. Admission Criteria: Psychosis, severe hyperactivity, violence causing risk to self or others, anxiety, depression and delirium.	Ward Milieu Therapy. Individual Psychotherapy. Family Therapy. Medication. School.	192	Mood Disorders 28% Externalising 26% Neurotic 18%	M= 15.7 SD= 1.4	F= 70%	Not Specified	M= 8.5 days (range 1-351 days), 25th percentile=3 days, 75th percentile=29 days

			Staff: Not Specified.							
(Herdzik, 2009)	Empirical, Quantitative Study	US	Single IPU Bed Number: 16 Attached Services: School Admission Criteria: Imminent threat of harm to self or others. Staff: Not Specified.	Psychiatric Evaluation. Individual Meetings with Staff. Psychoeducation Group Sessions. Occupational Therapy. Recreational Therapy. Family meetings. School.	60	Mood Disorders 40% Adjustment Disorders 18.3% Externalizing Disorders 11.7%	M= 15	F= 58.3%	Not Specified	M= 14
(Mathai & Bourne, 2009)	Empirical, Quantitative Study	Australia	Single IPU Bed Number: 12 Attached Services: School Admission Criteria: Not Specified. Staff: MDT	Activity Groups. Educational & Vocational Sessions. Group Therapy. Individual Counselling. Medication as Prescribed.	157	Not Specified	M= 15.12	F= 74.5%	Not Specified	M= 10.67 days SD= 19.34
(Setoya et al., 2011)	Empirical, Quantitative Study	Japan	Single IPU Bed Number: 41 Attached Services: School Admission Criteria: Not Specified. Staff: MDT	Milieu Therapy. Nursing Interventions. Individual Psychotherapy. Family Therapy. Occupational Therapy Group Therapy. Excursions. School.	126	Obsessive-Compulsive Disorder 16.7% Eating Disorders 14.3% Pervasive Developmental Disorders 12.7%	M= 12.8 SD= 1.9	F= 60.3%	Not Specified	M=335.4 SD=336.2

				Family Groups.						
(Sperbeck & Mayo, 2016)	Empirical, Quantitative Study	US	Single IPU Bed Number: 110 Attached Services: Not Specified. Admission Criteria: Not Specified. Staff: Not Specified.	Not Specified	3,150	Mood Disorders 42% Disruptive Behaviour Disorders 22% Anxiety Disorders 20%	M= 13.2 SD=3.0	F= 52%	Not Specified	M= 31.8 SD=2.5
(Yuan, 2015)	Empirical, Retrospective, Quantitative Study	UK	Single IPU Bed Number: Not Specified. Attached Services: School Admission Criteria: Emotional and behavioural disorders including self-harm and suicide risk. Staff: MDT	Not Specified	32	Not Specified	M= 16	F= 71%	Not Specified	M= 89 days
(Sébastien Urben et al., 2015)	Naturalistic Prospective Study	Switzerland	Single IPU Bed Number: 10 Attached Services: Not Specified. Admission Criteria: Not Specified. Staff: MDT	Family Therapy. Story-Telling Workshops. Music Therapy. Media Review, Art. Emotional centred workshop.	260	Mood Disorders 37% Conduct Disorders 15% Anxiety Disorders 12%	M=15.8 SD= 1.4	F= 57%	Not Specified	M= 24.9 SD=21.8

				Educational & cultural focus. School						

2.3.2 Details of Adolescent Participants' Characteristics

The majority of participants were females (87.5%) and mood disorders (62.5%) were the most common primary diagnoses of adolescents. LOS varied considerably between each IPU ranging from lowest mean of 4 days to the highest mean of 335.4 days. The voluntary versus involuntary admission status of adolescents were not mentioned in thirteen studies. For those studies that did report on status, all three reported that the majority in each IPU were admitted voluntarily.

2.3.3 Details of Outcome Measures

Each study utilised a variety of assessment tools to measure different outcomes (table 2.3). The most frequently cited measures included the Health of the Nation Outcomes Scale for Children and Adolescents (HoNOSCA) (n=7), Children's Global Assessment Scale (CGAS) (n=4), Youth Self Report (YSR) (n=3), Children's Depression Inventory (CDI) (n=3) and the Global Assessment of Functioning (GAF) (n=2). The domains which were measured mainly consisted of the following: various areas of functioning, relationships, symptom severity related to depression, anxiety, psychosis and mania, as well as risk factors. Other domains included internalising and externalising problems as well as academic abilities. All of the studies utilised clinician reports, nine included client reports in addition to clinicians, whilst three included caregivers, as well as clients and clinicians. In terms of timing, thirteen studies measured outcomes on admission and discharge. Only one study measured outcomes at the time of agreeing to be admitted, admission, discharge and one year post discharge. Three studies examined some outcomes at admission, during treatment and discharge. During treatment included 4 weeks after

admission (Jonathan Green et al., 2007), 14 days after admission (Greenham & Bisnaire, 2008) and the remaining study did not indicate the time-points (Herdzik, 2009).

Table 2.3: Descriptions of included outcome measures, domains measured, reporters, follow-up times and improvement values

Author(s) (year)	Outcome Measures & Domains	Reported By	Follow- Up	Measure	Admission	Discharge	One Year Follow-Up	Improvement Values, P Values[2] (P), Effect Size (ES)[3]
Barnes (2009)	BASIS-24 [4] GAF[5]	**BASIS-24:** Clients **GAF:** Clinicians	Admission and discharge	BASIS-24	M: 1.56 SD:.51	M: 1.22 SD: .43	N/A	P < .001* ES: 0.66
				GAF	M: 26.15 SD: 6.14	M:40.58 SD:8.9		P < .05* ES= 2.35**
Bobier *et al*. (2009)	HoNOSCA[6]	Clinicians	Admission and discharge	HoNOSCA Total Problems	M: 24.01 SD: 16.90	Not Specified	N/A	P= 0.027*
				Symptom Problems	M: 15.26 SD:5.52			
Burgess *et al*. (2009)	HoNOS[7], HoNOS65+, HoNOSCA	Clinicians	Admission and discharge.	HoNOSCA	Not Specified	Not Specified	N/A	SEM= 57.1% "Significant Improvement"

[2] * Indicates a statistically significant difference (p<0.001).

[3] ** Large effect size (d ≥ *0.8)*

[4]Depression. Functioning. Relationships. Self-Harm. Emotional Lability. Psychosis. Substance Abuse.

.

[6] Behaviour, Impairment, Symptoms and Social.

[7] Behaviour, Impairment, Symptoms and Social.

								ES=0.5
Chaplin *et al*. (2015)	HoNOSCA[8]	Clinicians	Admission and discharge	HoNOSCA	M: 20.1 SD: 9.2	M: 10.5 SD: 6.18	N/A	P < 0.001* ES= 1.04**
Duddu *et al*. (2016)	CGI[9]	Clinicians	Admission and discharge	CGI	Not Specified	Not Specified	N/A	"Much Improved" 53.7%
Green *et al*. (2007)	CGAS[10] CSRI[11] FAD[12] FEQ[13] SDQ[14] SNASA[15] TRF[16]	**CGAS:** Clinicians **SDQ:** Clients and Caregivers **TRF:** Teachers **S.NASA:** Client, Caregiver and Clincians. **FAD:** Clients. **CSRI:** Caregivers. **FEQ:** Clinican	**CGAS:** Admission, discharge and one year follow-up.	CGAS	M: 44.0 SD: 1.1	M:56.0 SD: 1.0	M: 58.3 SD: 1.5	Admission-Discharge P < .001* ES= 10.9** Admission-Follow Up P <.001* ES= 13**

[8] Behaviour, Impairment, Symptoms and Social.

[9] Severity of Illness, Clinical Progress & Therapeutic Efficacy.

[10] Functioning.

[11] Background Client Information.

[12] Functioning.

[13] Family Engagement.

[14] Emotional Problems. Conduct. Hyperactivity/Inattention. Peer Relationships. Prosocial Problems.

[15] Functioning including social, psychiatric, educational and life skills.

[16] Demographics Functioning.

	SDQ: Admission, discharge and one year follow-up.	SDQ-Caregiver	M: 22.9 SD: .75	M:20.6 SD: .82	M: 19.4 SD: .95	Admission-Discharge P < .001* ES= 3.0** Admission-Follow Up P < .01 ES= 4.6**
	TRF: Pre admission, after 4 weeks of admission and at discharge by the unit school, and at one year follow-up.	TRF	M: 42.1 SD: 3.1	M: 41.6 SD: 2.8	N/A	Admission-Discharge P <.001* ES= 0.16
	S.NASA: admission, discharge & one year follow-up. **FAD:** Baseline/Admission **CSRI:** Prior admission and at follow-up. **FEQ:** (after 1 month of admission)	S.NASA	M: 8.5 SD: 2.6	M: 5.6 SD: .30	M: 4.0 SD: .32	Admission-Discharge P <.001* ES: 1.1** Admission-Follow Up P <.001* ES= 1.73**

Greenham & Bisnaire (2008)	CAPI[17] CBCL[18] CDI[19] CSPI [20] MASC[21] YSR[22]	**CAPI:** Clinician **CBCL:** Caregivers **CDI:** Client **CSPI:** Clinicians **MASC:** Client **YSR:** Clients	**CAPI:** Admission and discharge. **CBCL:** Admission **CDI:** Admission & 14 days after admission. **CSPI:** Admission? **MASC:** Admission & 14 days after admission. **YSR:** Admission & 14 days after admission.	CAPI	Not Specified	Crisis M: 11.0 SD: 8.8 Assessment M:12.2 SD: 9.5 Transition M: 11.0 SD: 11.4	Not Specified	Improved=Reliable Change Index (RCI) > 1.96 Crisis 88% Improved Assessment 82% Improved Transition 80% Improved

[17] Risk Factors. Symptoms. Functioning. Systems Support.

[18] Emotional & Behavioural Functioning.

[19] Depressive Symptoms.

[20] Symptoms. Risk Factors. Functioning. Comorbidity. Systems Factors.

[21] Anxiety.

[22] Internalising & Externalising Problems.

Guvenir *et al*. (2009)	CGAS[23] CDI[24] Y-BOCS[25] YMSR[26] HDRS[27] PANSS[28] GRA[29]	**CGAS:** Clinicians **CDI:** Clinicians **Y-BOCS:** Clinicians **YMSR:** Clinicians **HDRS:** Clinicians **PANSS:** Clinicians **GRA:** Clinicians **TSP:** Clinicians	**CGAS:** Admission and discharge. **CDI:** Admission and discharge. **Y-BOCS:** Admission and discharge. **YMSR:** Admission and discharge. **HDRS:** Admission and discharge. **PANSS:** Admission and discharge.	CGAS CDI Y-BOCS YMSR HDRS PANSS GRA TSP	**CGAS** M: 41.3 SD: 10.0 **CDI** M: 28.1 SD: 14.1 **Y-BOCS** M: 33.5 SD: 11.9 **YMRS** M: 30.5 SD: 7.6 **HDRS** M: 22.6 SD: 6.0 **PANSS** M: 83.0 SD: 33.3	**CGAS** M: 65.2 SD: 10.5 **CDI** M: 7.0 SD: 5.2 **Y-BOCS** M:20.7 SD: 10.7 **YMRS** M: 8.5 SD:9.1 **HDRS** M:12.0 SD:7.7 **PANSS** M: 50.7 SD: 24.2	N/A	**CGAS** P= 0.000* ES= 2.39** **CDI** P= 0.012* ES=1.49** **Y-BOCS** P= 0.002* ES=1.07** **YMRS** P= 0.002* ES= 2.89** **HDRS** P= 0.000* ES= 1.76** **PANSS** P= 0.000* ES= 0.96**

[23] Functioning

[24] Depressive Symptoms.

[25] Obsessive & Compulsive Symptoms Scale.

[26] Mania.

[27] Depression.

[28] Positive & Negative Syndrome Scale.

[29] Individual Difficulties. Family Relationships. Academic or vocational motivation & social life.

			GRA: Admission and discharge.					
	TSP[30]		**TSP**: Admission and discharge.					
Haggerty *et al*. (2013)	BSM-25[31] SOS-10[32] GAF[33] IIP-32[34] YSR[35]	**BSM-25:** Clients **SOS-10:** Clients **GAF:** Clinicians **IIP-32:** Clients **YSR:** Clients	**BSM-25:** Admission and discharge. **SOS-10:** Admission and discharge. **GAF:** Admission and discharge. **IIP-32:** Admission **YSR:** Admission	BSM-25 SOS-10 GAF	**BSM-25** M: 51.59 SD:29.9 **SOS-10** M: 36.15 SD: 14.35 **GAF** M: 41.57 SD:6.12	**BSM-25** M: 34.28 SD:28.5 **SOS-10** M: 44.17 SD: 12.14 **GAF** M:51.23 SD:5.88	N/A	**BSM-25** P= 0.50* ES= 0.57 **SOS-10** P= 0.49* ES= 0.55 **GAF** P= 0.53* ES= 1.57**

[30] Psychiatric Symptoms. Impulsivity. Functioning.

[31] Psychiatric Symptoms.

[32] Self- & Interpersonal Relational Experience.

[33] Social, Occupational & Psychological Functioning.

[34] Interpersonal Behaviours.

[35] Internalising & Externalising Problems.

Hanssen-Bauer *et al.* (2011)	HoNOSCA[36]	Clinicians	Admission and discharge	HoNOSCA	M: 18.7 SD: 6.3	M: 13.6 SD: 7.1	N/A	P < 0.001* ES: 0.80**
Herdzik (2009)	BASC-2[37] CDI[38] FACES-IV[39] I-TAS[40] PES[41] PPVT-III[42] SOS[43] SRP-A[44] WRAT-III[45]	**BASC-2:** Client **CDI:** Client **FACES-IV:** Clinicians **PES:** Client **PPVT-III:** Clients **SOS:** Client **SRP-A:** Client **WRAT-III:** Client	**BASC-2:** Admission and discharge **CDI:** Admission and discharge **FACES-IV:** During treatment. **I-TAS:** Discharge **PES:** Discharge	BASC-2-Emotional Symptoms CDI SOS	**BASC-2-** Emotional Symptoms M: 81.8 SD:15.9 **CDI** M: 14.5 SD: 10.4 **SOS** M: 34.7 SD: 15.5	**BASC-2** Emotional Symptoms M: 56.0 SD:12.9 **CDI** M: 9.6 SD: 9.2 **SOS** M: 41 SD: 15.4	N/A	**BASC-2** Emotional Symptoms P < .05 ES= 1.62** **CDI** P < .05 ES= 0.47 **SOS** P < .05 ES= 0.40

[36] Behaviour, Impairment, Symptoms and Social.

[37] Behavioural & Emotional Strengths & Challenges

[38] Depressive Symptoms.

[39] Adaptability & Cohesion in Family Interactions

[40] Alliance to Inpatient Care.

[41] Perceived Effectiveness Scale.

[42] Vocabulary Test.

[43] Self- & Interpersonal Relational Experience.

[44] Relations with Parents, Interpersonal Relations, Self-Esteem & Self-Reliance.

[45] Reading Comprehension.

			PPVT-III: During treatment **SOS:** Admission and discharge. **SRP-A:** Admission and discharge. **WRAT-III:** During treatment					
Mathai & Bourne (2009)	HoNOSCA[46]	Clinicians	Admission and discharge	HoNOSCA	M: 17.13 SD: 5.88	M: 9.98 SD: 4.71	N/A	P < 0.0001* ES= 1.21**
Setoya *et al*. (2011)	CBCL[47] CGAS[48] YSR[49]	**CBCL:** Caregivers **CGAS:** Clinicians **YSR:** Client	**CBCL:** Admission and discharge **CGAS:** Admission and discharge **YSR:** Admission	CGAS	**CGAS** M: 38.1 SD: 13.9	**CGAS** M: 57.9 SD: 14.6	N/A	**CGAS** P = 0.00* ES= 1.42**
				CBCL	**CBCL** Full Score M: 49.9 SD: 30.5	**CBCL** Full Score M: 38.7 SD: 26.6		**CBCL** Full Score P= 0.00* ES= 0.36
				YSR	**YSR** Full Score M: 63.1 SD: 26.4	**YSR** Full Score M: 53.7 SD: 28.9		**YSR** Full Score P = 0.02* ES= 0.35

[46] Behaviour, Impairment, Symptoms and Social.

[47] Emotional & Behavioural Functioning.

[48] Functioning.

[49] Internalising & Externalising Problems.

			and discharge					
Sperbeck (2016)	BPRS-C[50] CIS[51] DASS[52] SARS[53]	**BPRS-C:** Clients **CIS:** Clients **DASS:** Clients **SARS:** Clinicians	**BPRS-C:** Admission and discharge **CIS:** Admission and discharge **DASS:** Admission and discharge **SARS:** Admission and discharge	SARS	NS	NS	N/A	SARS P= 0.000*
Yuan (2015)	CGAS[54] HoNOSCA[55]	**CGAS:** Clinicians. **HoNOSCA:** Clients and Clinicians	**CGAS:** Admission and discharge. **HoNOSCA:** Admission	HoNOSCA	**HoNOSCA (Clinician)** M: 18.0 SD: 7.2 **HoNOSCA (Client)**	**HoNOSCA (Clinician)** M: 9.7 SD: 2.9	N/A	**HoNOSCA (Clinician)** P< 0.001* ES= 1.1** **HoNOSCA (Client)**

[50] Behaviour Problems. Depression. Psychomotor Excitation. Anxiety. Organicity.

[51] Functioning.

[52] Anxiety & Depression

[53] Behaviours. Affect. Social & Family Functioning. Self-Harm. Academic Problems. Cognitive Functioning. Previous Treatment.

[54] Functioning.

[55] Behaviour, Impairment, Symptoms and Social.

			and discharge		M: 25.2 SD: 8.4	**HoNOSCA (Client)** M: 10.3 SD: 12.4		P< 0.001* ES= 1.7**
Urben *et al.* (2015)	HoNOSCA[56]	Clients?	Admission and discharge	HoNOSCA Total Score	M: 20.5 SD: 6.7	M: 13.3 SD: 6.6	N/A	P< 0.001* ES= 1.07**

[56] Behaviour, Impairment, Symptoms and Social.

2.4 Discussion

We have systematically identified and appraised the studies with the aim to understand if generic adolescent IPUs are effective. A secondary outcome was to assess how adolescent treatment outcomes are measured and what domains are measured.

In terms of how adolescent treatment outcomes are measured, each IPU utilized various outcome measures, at various times and with various reporters. Therefore, IPUs are inconsistent with measuring outcomes, thus limiting reliable comparisons to be made with other adolescent populations and services. The absence of set routine outcome measures in IPU settings indicate the diversity between each setting, their clientele and what domains are a priority. One needs to consider whether outcome measures for each IPU are selected based on available resources rather than measures designed specifically for IPU settings. For instance, HoNOSCA was commonly used in several studies. One item of this scale measures school attendance, yet most adolescents will not be attending school during an inpatient admission. Therefore, scores on discharge could be considered irrelevant, as the client was admitted during the rating period and thus could not attend school. Ideally, IPUs should measure a multitude of domains, as the needs of clients are varied. Measures need to be chosen based on the unique needs of the population utilising the IPU. Furthermore, measures should be adopted, which specifically measure the impact of adolescent IPU treatment. Mental health care, unlike physical care, does not have consistent measures available to reliably monitor client health and alert clinicians to negative responses to treatment (Newnham, Hooke, & Page, 2010). This creates significant concerns for those who are engaged in treatment.

Although there is no fixed pattern of change for all clients, monitoring progress provides clinicians with the opportunity to improve mental health outcomes in real time for the benefit of each particular young person(Lambert, Harmon, Slade, Whipple, & Hawkins, 2005; Lutz, 2003; Lutz, Stulz, & Köck, 2009).

Discharging from an IPU can create a variety of emotions for adolescents. Whilst some may be keen to leave, others may experience anxiety at the thought of leaving a containing environment. Others might experience anger as a result of feeling abandoned or rejected. With this in mind, these emotions are likely to influence self-reports. A number of client-rated measures indicated smaller effect sizes than clinicians. One could argue which report is more accurate, as clinicians could be subject to performance bias. Only one of the included studies examined outcomes one year post discharge. This study found that positive outcomes were sustained for the majority of adolescents one-year post discharge. The 'cooling off' period between discharge and one year post-discharge could remove the raw emotions surrounding discharge, thus producing more reliable findings.

In terms of effectiveness, most of the studies found clinically and statistically significant benefits for the majority of clients across various domains. However, each IPU would have had various client cohorts depending on countries and regions, admission policies, organisational cultures and varying LOS. For instance, Setoya et al. (2011) had a LOS of 11 months. This is a considerable length of time for a hospital admission and one would expect some improvement across this time. However, regardless of LOS, changes in

symptom severity were found from admission to the follow-up time point for a number of studies. For instance, despite a short LOS of 4 or 6 days, clients improved (Barnes, 2009; Greenham & Bisnaire, 2008). Guvenir et al. (2009) suggest a dosage effect where exposure to admission is an active ingredient in change. Few studies explore this further and in the absence of Randomized Controlled Trials (RCTs) or follow-up data post discharge, it is difficult to determine. In addition, one needs to question whether each outcome measurement assessment in mental health is an intervention in itself.

2.4.1 Quality of Evidence

In terms of sample size, there were 6 studies with a sample of less than 100, which could be considered small. Only 50% (n=8) of studies described the selection criteria for the study population. In 14 studies, not all eligible participants that met the pre-specified criteria were enrolled. The response rates varied across studies, however of those who reported (n=13), several presented a response rate less than 50% at discharge (n=6). On the contrary, the one study with one year follow-up found a response rate of 78% (Jonathan Green et al., 2007). In 7 studies, there was insufficient details describing the interventions provided and whether these were delivered consistently across the study population.

None of the individuals assessing the outcomes were blind to the interventions provided. In addition, none of the studies carried out multiple outcome assessments prior to the intervention. For all studies, blinding of participants was difficult due the nature of the adolescent inpatient settings and interventions. In addition, a number of

outcome measures were based on subjective self-reports, thus performance bias are likely to have been present. Clinicians could be considered biased, when it comes to rating their own work.

In table 2.4, the identified evidence is provided (National Institutes of Health, 2014). Several limitations in the quality of evidence are immediately evident. A risk of bias assessment was conducted for each study based on the National Institutes of Health (2014) assessment tool. This tool is designed to assess the quality of before-after (pre-post) studies with no control group. Based on this assessment tool, the risk of bias was poor to fair.

Table 2.4: Risk of bias assessment

	Criteria/ Yes (Y), No (N)															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1.Was the study question or objective clearly stated?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2.Were eligibility/selection criteria for the study population pre-specified and clearly described?	Y	N	N	Y	N	Y	N	N	N	Y	Y	N	Y	Y	N	Y
3. Were the participants in the study representative of those who would be eligible for the test/service/intervention in the general or clinical population of interest?	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4. Were all eligible participants that met the pre-specified entry criteria enrolled?	N	N	N	N	Y	N	N	N	N	N	N	Y	N	N	N	N
5. Was the sample size sufficiently large to provide confidence in the findings?	Y	N	Y	N	N	Y	Y	N	Y	Y	N	Y	Y	Y	N	Y
6. Was the test/service/intervention clearly described and delivered consistently across the study population?	N	Y	N	N	Y	N	Y	Y	N	N	Y	Y	Y	N	Y	Y
7. Were the outcome measures pre-specified, clearly defined, valid, reliable, and assessed consistently across all study participants?	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8. Were the people assessing the outcomes blinded to the participants' exposures/interventions?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9. Was the loss to follow-up after baseline 20% or less? Were those lost to follow-up accounted for in the analysis?	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	Y	N	N	Y
10. Did the statistical methods examine changes in outcome measures from before to after the intervention? Were statistical tests done that provided p values for the pre-to-post changes?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
11. Were outcome measures of interest taken multiple times before the intervention and multiple times after the intervention (i.e., did they use an interrupted time-series design)?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12. If the intervention was conducted at a group level (e.g., a whole hospital, a community, etc.) did the statistical analysis take into account the use of individual-level data to determine effects at the group level?	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	Y
Quality Rating Good (G), Fair (F), Poor (P) **Good= (0-2 No)** **Fair= (2-4 No)** **Poor= (4+ No)**	**F**	**P**	**P**	**P**	**P**	**F**	**P**	**P**	**P**	**P**	**F**	**F**	**F**	**P**	**P**	**F**

2.4.2 Limitations

This review is not without limitations. The eligibility criteria excluded articles not written in English, thus inpatient outcome studies for other cultures were excluded. Article authors were not contacted for further information. The studies included in the review all have methodological limitations. Firstly, none of the studies were RCTs. Several studies utilised a variety of clinically reliable measures, which are widely used in youth mental health care. However, the measures lacked consistency across studies, making comparisons difficult. This reflects the lack of a universal adolescent measure for IPU treatment. In addition, considering clinicians rated the majority of measures in each study, performance and rater-bias might have prevailed. A number of studies (n=6) lacked adequate sample sizes for statistical power, with sample sizes of less than 100 (Burmeister & Aitken, 2012). In addition, studies have limited systematic information on diagnoses, pharmacotherapy, symptomatology and demographics. Therefore, the ability to make firm recommendations based on the available evidence is limited.

2.5 Conclusion

The studies described support that IPU admissions are indeed helpful for adolescents. Despite the obvious demand for EBP in adolescent IPUs, the evidence base is vague and characterised by studies with small sample sizes and heterogeneous research designs. In particular, there is a paucity of well-conducted studies such as those of a longitudinal design with large sample sizes, RCTs and multiple measure informants, particularly clients. However, this is not particularly surprising as research in adolescent inpatient settings is limited. This is often limited as a result of the challenges which present when studying young people. For instance, access to services given the vulnerability of the population.

Measuring the efficacy of adolescent IPUs is difficult. These challenges include the use of comparison and control groups in such studies. Who would be an appropriate control group? How would the IPU treatment be measured? Given these difficulties, it is important to consider alternate methods of evaluation, when measuring outcomes. One way would be to standardize outcome measures and domains for adolescent IPU settings. Heterogeneity of the problems and treatments required, in addition to difficulties in conducting blind ratings provide further challenges.

IPUs can serve for symptom stabilisation within a short stay. The inpatient admission itself can offer containment, as part of overall effectiveness, through a combination of removal from stressful environments, intensive 24-hour care and support and/or positive effects of group milieu (Jonathan Green et al., 2007). However, there is uncertainty in relation to the effective components of interventions, LOS, suitability and whether positive effects gained are maintained post-discharge (Jonathan Green et al., 2007). Furthermore, whilst this review demonstrates that mental health stabilisation can be achieved following an episode of inpatient care, we are unsure as to 'how' and 'why' this is achieved. There are inconsistencies in how each IPU measures outcomes and who completes the ratings.

This review presents the combined data from over 6,500 adolescent inpatients, demonstrating symptomatic improvement following IPU treatment across measures and raters. This suggests evidence of symptomatic improvement as a result of IPU treatment, however cannot evaluate how IPU treatment would compare to treatments provided in other settings with similar populations. The complex needs of adolescents in crisis makes research

into the mechanisms of change and specific IPU treatments challenging, but a worthwhile endeavour yet to be performed sufficiently.

2.6 Relevance for Clinical Practice

One of the aims of this review was to assess if adolescent IPUs are effective. The findings confirm that adolescent IPUs are effective for the majority of young people. This informs mental health nursing practice by assuring nurses that the work, which they pursue contributes to improvement. This is an extremely positive and powerful affirmation for mental health nurses, who constitute the bulk of the IPU workforce. Such information is important for mental health nurses and managers alike to be aware of, and can enhance morale and positively influence clinical practice.

This review also sought to establish how outcomes were measured in adolescent IPU settings. Whilst it is unclear which clinicians completed each of the outcome measures on IPUs, we can assume that mental health nurses completed the majority. This is a key contribution, which mental health nurses play in clinical practice on a daily basis. Given that outcome measures are often used to determine the efficacy of a particular service, there should be more value placed on this role for mental health nurses.

Chapter 3

What nonpharmacological therapeutic interventions are provided to adolescents admitted to general mental health inpatient units? A descriptive review

Limited research exists regarding the therapeutic operations of adolescent mental health inpatient units, particularly in terms of nonpharmacological therapeutic interventions. This review collates what is known about reported nonpharmacological therapeutic interventions for young people admitted to general or non-disorder specific adolescent mental health inpatient settings. A descriptive review of this nature was not located in the literature. The aim was to identify what is currently known about reported nonpharmacological therapeutic interventions. The purpose was to consider gaps and contribute to further work being undertaken in describing an exemplary inpatient model of care for adolescents. Sources included CINAHL, MEDLINE, ERIC, EMBASE, and PsycINFO. Studies included were those published in English, between the years 2000 and 2018. Exclusions included residential, community, outpatient, forensic settings and studies detailing pharmacological interventions. Ten studies were identified. This descriptive review provides an objective foundation to inform an exemplary inpatient model of care currently being investigated. There is a critical need to understand these interventions to identify key components of an inpatient model of care. Furthermore, these results can influence current practice by improving quality and delivery of inpatient care.

3.1 Introduction

Inpatient hospitalisation is an important component of psychiatric services, serving the highest risk and most vulnerable individuals in the mental health delivery system (Bor, Dean, Najman, & Hayatbakhsh, 2014; Sams, Garrison, & Bartlett, 2016; Zeshan, Manocha, Waqas, Naveed, & Ghulam, 2018). In the last few decades, inpatient care has undergone fundamental changes, predominantly driven by deinstitutionalisation policy initiatives and greater emphasis on community-based services (Zeshan et al., 2018). Decreasing length of stay is a common policy and practice directive internationally, largely to reduce costs and encourage independent functioning outside of the hospital environment (Baeza, da Rocha, & Fleck, 2018; Jonathan Green et al., 2007; Zeshan et al., 2018). Furthermore, more alternatives are now available within community settings, such as short-term prevention and recovery centres. This suggests that the role of the inpatient unit in mental health care is continuing to change to meet individual, policy and practice demands (Stanton, Lahdenperä, & Braun, 2017). Such changes have direct implications for mental health nursing.

Researchers and clinicians are reporting increasing rates of mental illness across the lifespan (Bor et al., 2014; A. Case & Deaton, 2015; Padayachey, Ramlall, & Chipps, 2017). According to Schroeder, Krebs, Bleich, and Frieling (2010), depressive disorders are predicted to be a leading cause of disability by 2020. Internationally, adolescents in particular are experiencing increasing rates of mental illness (Australian Institute of Health and Welfare, 2018; Bitsko et al., 2018; Lawrence et al., 2015; Patalay & Fitzsimons, 2017). A nationwide study found that 14% of Australian adolescents have emotional or behavioural problems, with many of these having long-term mental health conditions (Australian Institute of Health and Welfare, 2018; Lawrence et al., 2015). The study found that the proportion of young people likely to have a

serious mental illness rose from 18.7% in 2012 to 22.8% in 2016(Australian Institute of Health and Welfare, 2018; Lawrence et al., 2015). Similarly, the Millennium Cohort Study in the United Kingdom (UK) found that nearly one quarter (24%) of female adolescents aged 14 reported suffering from high level symptoms of depression (Patalay & Fitzsimons, 2017). In the United States (US), Mojtabai, Olfson, and Han (2016) found that major depressive episodes rose from 8.7% in 2005 to 11.3% in 2014 for adolescents in different socioeconomic groups. These statistics emphasise the need for early intervention, access to necessary care and appropriate interventions.

In terms of access to care, many countries continue to struggle with the limited number of adolescent inpatient beds to meet the demand(Buchanan, 2014; Geller & Biebel, 2006; Kadvany, 2015; Mackee, 2018; Merrillees, 2014). Although one could argue that 'too many beds' is not the solution, it is important to recognise the high acuity of adolescents admitted to inpatient care (Rosen, Gurr, Fanning, & Owen, 2012). One Canadian study sample found that 87% of admitted adolescents had thoughts of injuring themselves prior to admission, 77% did engage in non-suicidal self-injury (NSSI), and 67% had made an attempt to end their life prior to admission (Preyde et al., 2014). This is recognised internationally with an increasing number of adolescents admitted to inpatient care with suicidal ideation, attempts and NSSI (Esposito-Smythers, McClung, & Fairlie, 2006; Hanssen-Bauer et al., 2011; Plemmons et al., 2018). These statistics represent a high-risk population, particularly when a suicide attempt is a key risk factor for death by suicide (Goñi-Sarriés, Blanco, Azcárate, Peinado, & López-Goñi, 2018; World Health Organization, 2018b). Despite adolescents being a high-risk population, little is known about inpatient units.

Inpatient units are known to be effective for the majority of adolescents in that they improve in at least one area of their symptomatology from admission to discharge (Bettmann & Jasperson, 2009; Hayes et al., 2018). Inpatient units play an important role in meeting the complex needs of adolescents within the continuum of care. The primary purpose of an inpatient unit is to provide containment for adolescents and stabilise mental health symptoms (Tharayil et al., 2012). An admission to an inpatient unit is an intense intervention for any adolescent, at a time in their life where they are particularly vulnerable. It is also the most critical time for appropriate and early intervention. However, the changing role of inpatient units and growing demands present many challenges for mental health nursing. Such challenges include the changing trends and presentations of adolescents being admitted to inpatient units (Swadi & Bobier, 2005; Van Kessel, 2012). It is imperative that mental health nurses are confident in the interventions they provide. Confidence and assurance in the delivery of care or any intervention coincides with effective containment for adolescents, and creating a confident culture.

Current literature indicates that there is no overarching exemplary model of care for adolescents admitted to general (non-disorder specific) inpatient units. This was observed in a recent systematic review, which examined the effectiveness of adolescent inpatient units and adolescent outcomes (Hayes et al., 2018). The review found that several studies failed to report on important features of each inpatient unit, such as what non-pharmacological therapeutic interventions were delivered. Developing an exemplary model of care for adolescents involves not only understanding whether an inpatient unit is effective in terms of outcomes, but more about 'how' and 'why' it is effective.

A similar review by Indig et al. (2017) found that the ability to synthesise available evidence regarding inpatient care for adolescents was highly limited. These limitations were due to the variety of models of care and treatment interventions that the studies examined. This diversity included different intervention models, settings, treatment length and intensity as well as staffing profiles. Indig et al. (2017) found that some studies documented aspects of their model of care, although none reported collecting data relating to contextual factors. This included the various treatment components to determine the active ingredients for effective treatment. The review concluded suggesting that there was an inability to identify any studies which examined the key elements of an effective model of inpatient care. Furthermore, reviewers urged for further research evaluating a range of flexible and integrated inpatient models of care. Similarly, Bettmann and Jasperson (2009) claimed that there were significant deficits in the literature with few studies assessing specific programmatic elements.

K. R. Delaney (2006b) described ten milieu interventions, which were considered particularly valuable for inpatient adolescent treatment. These were divided into three categories of behavioural, cognitive and affective. All were considered relevant to clinicians in their efforts to help adolescents achieve control over their feelings, behaviours and thoughts. The behavioural interventions consisted of promoting self-efficacy experiences, reinforcement techniques and interrupting patterned behaviour. Cognitive techniques included problem-solving, restructuring and linking mood-thought-behaviour. Finally, affective techniques were empathy, decreasing stimuli, teaching about affects and self-management of affects. Understanding these interventions is essential to assist mental health nurses in their endeavour to help adolescents in a crisis. Adolescents require an environment where

clinicians intervene based on careful assessment. In addition, provide interventions grounded in a conceptually sound rationale (K. R. Delaney, 2006b).

Changes to mental health care in the last few decades have prompted the need for a current review of non-pharmacological therapeutic interventions for adolescents within inpatient settings. This is important as patient populations in general adolescent inpatient units are heterogenous in terms of mental health presentations and diagnoses, making the identification of a suitable 'model' or non-pharmacological therapeutic interventions particularly challenging. Establishing this literature base will provide guidance to inpatient units in optimising their service and more importantly, improve the admission experience for adolescents. This includes defining elements of the inpatient setting, which make up the model of care, including organisational structure, admission processes, provision and delivery of all interventions. Furthermore, a review of non-pharmacological therapeutic interventions can facilitate the development of an exemplary inpatient model of care for adolescents. To the researchers' knowledge, no review has been conducted which examines general (non-disorder specific) adolescent inpatient units and the non-pharmacological therapeutic interventions reported. This is a major gap in current research.

This descriptive review aims to build upon this research gap and contribute to the limited adolescent inpatient research base. This descriptive review aims to provides an objective foundation to inform an exemplary inpatient model of care currently being investigated (Hayes et al., 2018). A descriptive review of non-pharmacological therapeutic interventions in contemporary practice is warranted, particularly to meet the changing demands of adolescent inpatient units. Consequently, this review seeks to inform mental health clinicians,

leaders and researchers. Furthermore, this review can inform those who desire to develop an exemplary model of care for adolescents admitted to general (non-disorder specific) inpatient units.

3.1.1 Objectives

This review seeks to answer the following research question: What non-pharmacological therapeutic interventions are provided to adolescents admitted to general (non-disorder specific) adolescent mental health inpatient units?

3.2 Methods

3.2.1 Design

The search methodology for this review followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) Guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009). This review has been recorded in the International prospective register for systematic reviews (PROSPERO) with the registration id. CRD42017075786 (Booth et al., 2012).

3.2.2 Information sources

A literature search was performed in the following electronic databases: MEDLINE (Medical journals), EMBASE, ERIC (Education Resources Information Centre) CINAHL (Cumulative Index to Nursing and Allied Health) and PsycINFO. Each database was accessed on the 16th March 2018.

3.2.3 Search terms

Searches were conducted using subject headings (MeSH terms) and text words within abstracts and titles. The search terms used in each database are as follows: Adolescents: ([adolescen* OR “young person*” OR “youth*” OR “young adult*” OR teen* or child*] AND [inpatient* OR "in-patient*" OR adolescent* OR patient* OR "service user*”] Inpatient setting: [“mental health setting*” OR "inpatient unit*" OR in-patient unit*" OR hospital* OR admission* OR “mental health service*” OR “psychiatric” OR “mental health*” OR “generic” OR “generic inpatient unit*” OR “general” OR “general inpatient unit*”] Non-pharmacological interventions: [“Intervention*” OR “Therap*” OR “Treat*” OR “group*” OR “group therap*” OR “programme*” OR “Individual*” OR “family*” OR “psychoed*” OR “milieu*”]. Only peer-reviewed journals were included in the results. Reference lists of selected studies were manually searched to ensure all relevant studies were included. When required, we contacted study authors to confirm eligibility and/or to acquire data.

3.2.4 Eligibility and study selection

Studies were included if the inpatient unit was general, thus not solely focussed on specialty areas such as substance abuse or eating disorder units. Only studies focused on reporting inpatient non-pharmacological therapeutic interventions were included. Inclusion criteria also comprised of studies written in English, published between January 2000 and March 2018 and with participants between the mean ages of 12 and 25. The purpose of limiting the years was to ensure results were relevant to contemporary practice and provided an updated review. The inclusion criteria were not limited by study design. Studies were excluded if the setting was solely residential, community, outpatient and/or forensic settings. The rationale for excluding such settings was to establish a more succinct account of general (non-disorder

specific) inpatient units for adolescents. Furthermore, studies detailing pharmacological interventions alone were excluded.

3.2.5 Data collection process

The initial search utilising the search terms was undertaken. Results were retrieved and transferred to an Endnote X7 database (Clarivate Analytics, 2015). Using Endnote's function, duplicate entries were identified and removed (*n*=185). Remaining articles were organised alphabetically and manually checked to identify any missing duplicates. Following this process, a further 837 papers were removed as they did not the meet inclusion criteria. Abstracts and titles were searched and screened against eligibility criteria for inclusion. Following inspection, a further 58 papers were removed for not meeting the inclusion criteria. This occurred in such instances where participants were outside the mean age or the inpatient units were disorder specific. The PRISMA flow diagram for inclusion is illustrated in figure 3.1.

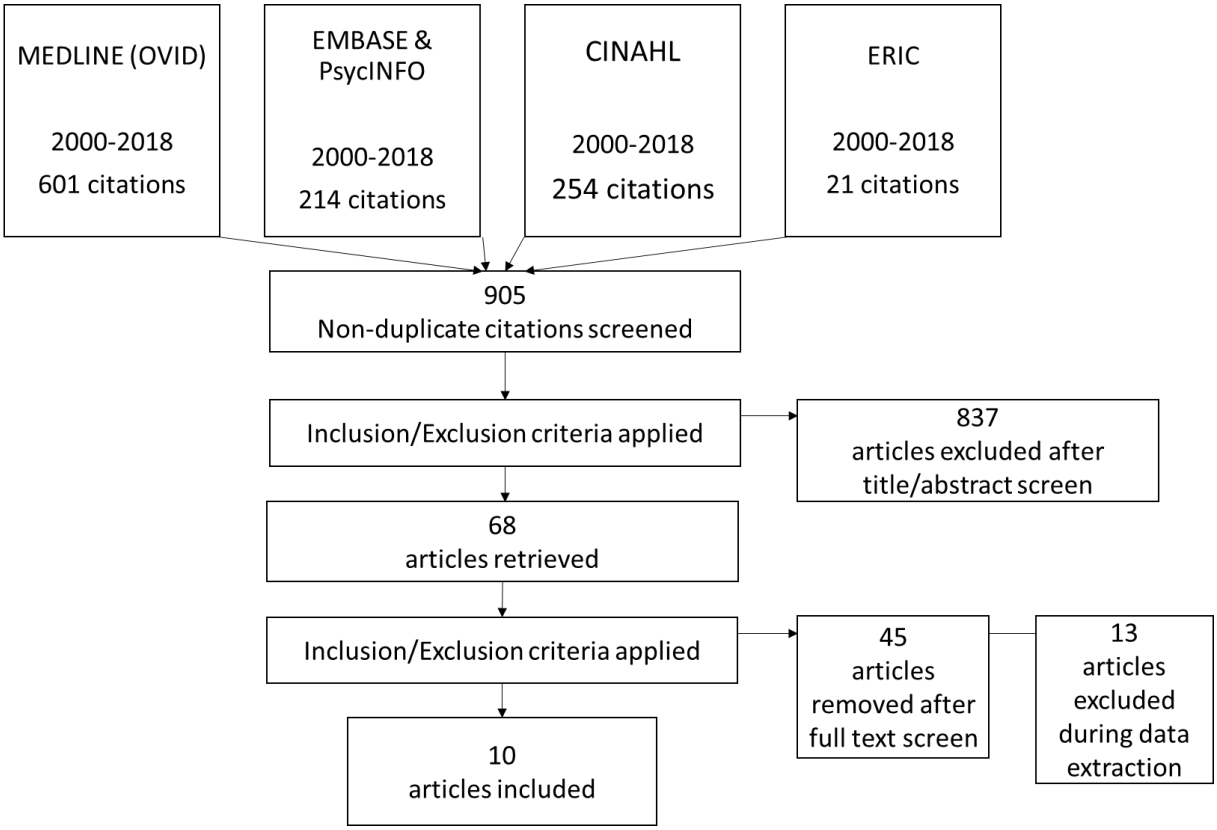

Figure 3.1 PRISMA Search strategy

3.3 Results

The search strategy resulted in the identification of 10 studies for inclusion (Fig. 3.1).

3.3.1 Study characteristics

The general study characteristics are presented in table 3.1. The majority of studies were published over six years ago (n=6), with the most recent publication in 2017 (n=1). Three studies were from New Zealand (n=3) and by the same authors. Remaining studies were from Australia (n=2), United States (n=2) and Canada (n=1). Locations were unknown for the remaining two studies. The corresponding authors were contacted via email to establish which country their research was conducted. One corresponding author replied reporting that their study was conducted in the UK. All of the studies did not explicitly state whether

the inpatient units were publicly or privately funded. Most of the studies were empirical, prospective, pre/post evaluation studies (n=4) and quality improvement evaluations (n=4). Two studies were of a case study design (n=1), whilst one was descriptive (n=1); these are considered separately. Five studies used a quantitative approach, whilst the remaining were qualitative (n=2), mixed-methods (n=1), and the remaining two studies were descriptive and a case study.

Table 3.1 Characteristics of the included papers

Authors, year (country)	Study aim	Design	Sample size	Intervention
Bobier et al., 2009 (New Zealand)	Assess the usefulness of narrative discharge letters as rated by patients, family members, and professionals	Empirical Quantitative Evaluation	N=38	Narrative discharge letter
Bobier et al., 2009 (New Zealand)	Evaluate nursing and multi-disciplinary intervention.	Empirical Quantitative Prospective pre/post evaluation study using routine audit data.	N=46	Illness education Anger management Stress management education Relaxation Problem-solving skills Relationship education Self-awareness Sporting activity Art activity Individual support
Esposito Smythers et al., 2006 (United States)	Explore adolescents' perceptions, strengths and weaknesses of a psychoeducational suicide prevention group.	Retrospective Qualitative Evaluation	N=250	Psychoeducational suicide prevention group
Katz et al., 2004 (Canada)	Feasibility of Dialectical Behaviour Therapy for Suicidal Adolescent Inpatients	Empirical Quantitative Pre, post & 1 year follow-up	N=62	Dialectical Behaviour Therapy

Killick and Bowkett 2015 (?)	Describe a 'Reading and storytelling group'.	Not a study Description of a group	Not Available	Reading and storytelling group
Patterson et al., 2015 (Australia)	Assess the feasibility of delivering a music therapy program on adolescent inpatient units	Mixed methods evaluation.	N=43	Music therapy
Sams et al., 2016 (United States)	Describe the integration of a strength-based approach with a traditional, medical model of psychiatric care.	Empirical Quantitative. Pre/post evaluation. Ongoing quality improvement project.	N=71	iMatter Narrative therapy Dialectical Behaviour Therapy group Animal-assisted therapy Acceptance and commitment therapy Family movie therapy Cognitive behavioural modules
Swadi et al., 2010 (New Zealand)	Determine if patients receive psychoeducation according to unit philosophy	Prospective Quality assurance initiative	N=60	Psychoeducation
Walker and Kelly 2011 (United Kingdom)	Describe the introduction of an early warning signs journal in an adolescent inpatient unit	Case study	N=2	Early warning signs journal
West et al., 2017 (Australia)	Evaluation of the use and efficacy of a sensory room within an adolescent psychiatric inpatient unit	Empirical Quantitative Pre-post	N=112	Sensory room

3.3.2 Quality appraisal

For this review, the quality of the included studies were appraised using the National Institutes of Health (2014) assessment tool. Based on this assessment, the quality of studies was considered poor to fair. However, due to the scarcity of research in this area, all studies were included in the review. The results of the quality appraisal are demonstrated in table 3.2. Biases of several studies related to blinding issues and sample size. Only two studies listed the selection criteria for their study. Despite the poor-fair quality of studies, this review sought to identify the non-pharmacological therapeutic interventions to inform future adolescent models of inpatient care. The review did not include an evaluation of how interventions were measured given the gaps within the literature base. Therefore, issues such as blinding of participants or sample size was not discussed in this review.

Table 3.2: Risk of bias assessment

	Criteria/ Yes (Y), No, Unclear (U)									
	Bobier et al., 2009 (A)	**Bobier et al., 2009 (B)**	**Esposito-Smythers et al., 2006**	**Katz et al., 2004**	**Killick and Bowkett, 2015**	**McFerran-Skewes and Sawyer, 2003**	**Patterson et al., 2015**	**Sams et al., 2016**	**Walker and Kelly, 2011**	**West et al., 2017**
1. Was the study question or objective clearly stated?	Y	Y	Y	Y	N	Y	Y	N	N	Y
2. Were eligibility/selection criteria for the study population pre-specified and clearly described?	N	N	N	Y	N	Y	N	N	N	N
3. Were the participants in the study representative of those who would be eligible for the test/service/intervention in the general or clinical population of interest?	Y	Y	Y	Y	Y	Y	Y	Y	U	Y
4. Were all eligible participants that met the pre-specified entry criteria enrolled?	N	N	Y	U	N	Y	U	U	U	U
5. Was the sample size sufficiently large to provide confidence in the findings?	N	N	Y	N	N/A	N	N	N	N	Y
6. Was the test/service/intervention clearly described and delivered consistently across the study population?	Y	N	Y	Y	N	U	Y	Y	Y	Y
7. Were the outcome measures pre-specified, clearly defined, valid, reliable, and assessed consistently across all study participants?	U	Y	N	Y	N	N	N	Y	N	Y
8. Were the people assessing the outcomes blinded to the participants' exposures/interventions?	N	N	N	N	N/A	N	N	N	U	N

9. Was the loss to follow-up after baseline 20% or less? Were those lost to follow-up accounted for in the analysis?	N	N	U	Y	N/A	U	N	U	U	U
10. Did the statistical methods examine changes in outcome measures from before to after the intervention? Were statistical tests done that provided p values for the pre-to-post changes?	U	Y	N	Y	N	N	N	Y	N	Y
11. Were outcome measures of interest taken multiple times before the intervention and multiple times after the intervention (i.e., did they use an interrupted time-series design)?	N	N	N	N	N	N	N	N	N	N
12. If the intervention was conducted at a group level (e.g., a whole hospital, a community, etc.) did the statistical analysis take into account the use of individual-level data to determine effects at the group level?	U	Y	Y	N	N	U	N	U	U	U
Quality Rating Good (G), Fair (F), Poor (P) **Good= (0-2 No)** **Fair= (2-4 No)** **Poor= (4+ No)**	**P**	**P**	**P**	**F**	**P**	**P**	**P**	**P**	**P**	**F**

3.3.3 Non-pharmacological therapeutic interventions

The non-pharmacological therapeutic interventions have been organised under the following headings: Reflection, discharge and recovery interventions, Education and skills interventions, Therapy model interventions, Creative expression interventions, Sensory modulation interventions, Physical health interventions, Individual support interventions, Mindfulness interventions, Family/support-based interventions, and Pet therapy interventions.

3.3.3.1 Reflection, discharge and recovery interventions

3.3.3.1.1 Narrative discharge letter

C. Bobier, Dowell, and Craig (2009) assessed the potential value of letter writing "with" adolescents rather than "about" them. One assigned primary nurse initiated the letter process, depending on the rapport between the clinician and adolescent. Letters were written in collaboration with the Multidisciplinary Team (MDT) and adolescent. The writing process began following the initial crisis stage of admission and up to one week prior to discharge. A provisional draft was discussed with the adolescent prior to discharge. Letters included important information regarding the adolescent's admission, progress, difficulties and successes. Letters were used together with individual care plans to describe the overall treatment as well as management plan, which were discussed in clinical review meetings. Letters aimed to include the adolescent, be supportive and reflective, as well as objective.

3.3.3.1.2 Early warning signs journal

Adolescents admitted to an inpatient unit generated an account of their own personal journal to learn from and prevent future relapse episodes (Walker & Kelly, 2011). Adolescents were encouraged to utilise their journal and discuss the content with their primary nurse. The

purpose was to reflect on their personal early warning signs of deterioration, as well as develop healthy coping strategies. Clinicians helped adolescents distinguish between regular adolescent identity development and early signs of relapse. The journal was used to identify and focus on current issues in the adolescents' life and the management of any associated stress. To structure the early signs of relapse, a 3-step initiative was used.

In the first step, adolescents identified personal deterioration symptoms from a set of cards. Adolescents were encouraged to cut out pictures as visual aids in identifying these symptoms. The use of pictures was particularly useful for adolescents with learning difficulties. Adolescents explored these signs in the context of thinking, feelings and behaviours. *Thinking*: Observing changes related to thoughts regarding others and frequency of these thoughts. *Feelings*: Observing feelings such as irritability. *Behaviours*: Recognising changes in behaviour such as energy, sleep and eating patterns. In the second step, adolescents were encouraged to develop of a timeline of important events leading to being referred to mental health services. The early warning signs were then linked with these prompting events, paying close attention to the thoughts, feelings and behaviours. An example was observing a timeline with dates and events, such as “went to mum's engagement party, exams at school, visit to father's house. Admission to inpatient unit 12/11/2006”. Adolescents were then encouraged to explore thoughts, feelings, behaviours. In the third step, adolescents shared their potential prompting events or stressors and how they coped with these. The creative aspect of the journal was reinforced to engage and motivate the adolescent. One example was listing helpful activities in the journal such as listening to songs on the iPod, progressive muscle relaxation, talking to friends and playing basketball. The intervention aimed to help

adolescents understand their mental illness and explore various avenues of recovery to maximise their potentials.

3.3.3.2 Education and skills interventions

3.3.3.2.1 Nurse-led interventions

C. Bobier, Dowell, and Swadi (2009) investigated a range of nurse-led interventions and whether they demonstrated outcome improvements in the real-world setting. To quantify nursing interventions, an intervention inventory was established from the inpatient unit's existing programme and activities, as well as extensive involvement from the MDT. Education and skills-based interventions described by C. Bobier, Dowell, and Swadi (2009) included the following: illness education, relationship education, stress management education, anger management, relaxation, problem-solving skills training and self-awareness education. No further information was provided in terms of each of these non-pharmacological interventions.

3.3.3.2.2 Psychoeducational suicide prevention group

Esposito-Smythers et al. (2006) examined a psychoeducational suicide prevention group for adolescents with suicidal ideation and intent. The 60-minute group was facilitated by a psychologist and pre-doctoral interns in psychology. Groups ranged in size from two to six people. On commencement of the group, adolescents were provided with a 15-page manual, which was used as a guide. The aim of this group was to provide education on adolescent suicide and help adolescents understand their prompting stressors. Furthermore, the group aimed to assist adolescents in exploring helpful coping strategies to alleviate suicidal thoughts and behaviours. The group aimed to assess the rate of suicidal behaviours, impulsivity, prompting stressors and risk of future suicide attempts amongst adolescents. Furthermore,

the group explored help seeking behaviours for suicidal thoughts, as well as how to respond to someone who is unsupportive when suicidal thoughts are expressed (e.g., “trying to get attention”).

Adolescents were encouraged to use their manual to record their personal prompting stressors for suicidal thoughts and behaviours. It was optional for adolescents to share these with the group. To explore helpful coping strategies, adolescents were encouraged to develop their own personal “safety list” and “reasons to live list”. It was also optional for adolescents to share their own with others in the group. Adolescents were encouraged to take the manual home and review both lists if suicidal thoughts re-emerged.

3.3.3.2.3 Psychoeducation group

Swadi, Bobier, Price, and Craig (2010) also endorsed the use of psychoeducation in terms of targeting individual adolescent needs and using various sources (Swadi et al., 2010). Such sources included verbal interactions, videos, games and educational handouts. The group aimed to enhance adolescents’ awareness and create more insight in terms of coping strategies for wellness. Psychoeducation was also endorsed by C. Bobier, Dowell, and Swadi (2009) in their investigation of nurse-led interventions. No further information was provided in terms of how psychoeducation was facilitated other than being nurse-led.

3.3.3.3 Therapy model interventions

3.3.3.3.1 Dialectical behaviour therapy (DBT)

Katz, Cox, Gunasekara, and Miller (2004) evaluated an adolescent inpatient DBT programme, which was modified from the DBT model developed by Miller, Rathus, Linehan, Wetzler, and

Leigh (1997). The DBT programme ran for two weeks and comprised of ten daily, manualised skills training sessions. Adolescents were also seen twice per week for individual DBT psychotherapy. During these sessions, diary cards were reviewed, and behavioural and solution analyses were conducted. The programme had a DBT milieu with all staff trained in DBT for skills generalisation.

A regular DBT consultation meeting took place for all staff. This was important to ensure adherence to the model, as well as enhance staff motivation in helping adolescents with challenging behaviours. A DBT expert was consulted during the study to assess the programme. Treatment as Usual (TAU) consisted of psychodynamic psychotherapy weekly and a psycho-dynamically oriented milieu. No formal behaviour therapy was utilised as part of TAU. Regular meetings took place amongst the TAU team to discuss any management issues on the ward. Staff on both units did not differ in experience. For both DBT and TAU, family assessments were organised, as well as brief crisis intervention and psychoeducation for families. Upon discharge, all adolescents, regardless of whether they were in the DBT or TAU programme were discharged to community and outpatient support systems. Sams et al. (2016) also reported DBT as a non-pharmacological therapeutic intervention, which involved teaching adolescents DBT skills in a structured group setting.

3.3.3.3.2 Acceptance and commitment therapy (ACT)

Sams et al. (2016) reported that a pilot of ACT groups was being conducted with adolescents, facilitated by trained staff. Further details about size of groups, length of delivery and so forth were not provided.

3.3.3.3.3 Cognitive behaviour therapy (CBT)

Sams et al. (2016) reported on CBT modules. Therapy packets were created to help adolescents develop coping skills for their individual problems. These contained educational information and activities for skill building to help adolescents develop and utilise CBT skills to alleviate symptoms. Sams et al. (2016) also identified the principles of a cognitive-behavioural model known as Collaborate Problem Solving (CPS). CPS is a family based intervention built on the assumption that "children do well if they can" (Greene, Ablon, & Goring, 2003). The CPS model suggests that some individuals with challenging clinical issues may lack the necessary cognitive capacity to manage certain emotions such as frustration. Overcoming some of these emotions often depend on flexibility and adaptability. Therefore, key factors of this approach include identifying cognitive difficulties and intense responses to situations, which can lead to challenging behaviour. For this intervention, formal didactic training was conducted amongst staff, as well as weekly consultation meetings, coaching and mentoring.

3.3.3.4 Creative expression interventions

3.3.3.4.1 Reading and storytelling group

Killick and Bowkett (2015) described a one-hour non-compulsory reading aloud and storytelling group for young people aged 12 to 17. It is uncertain whether this included breaks. A clinical psychologist facilitated the groups. Group sizes ranged from two to eight, with five being the norm. Large books were read over a period of several weeks if necessary. The stories prompted thoughts, feelings and encouraged discussion amongst the group. The group aimed to help young people feel part of a community, team and a sense of belonging. Various games or riddles were used as warm up exercises. Adolescents often picked books based on movies they had seen. Common books included: Smoke and Mirrors or Romeo and Juliet- and

targeted a younger audience. The themes were discussed and how adolescents responded to what they read and heard. When reading Shakespeare, adolescents explored the possible meanings in certain words, either contained in the story or generated by their peers in the group. Group members expressed how they were able to relate to certain stories. For instance, relating to a certain distressed character in a book and how they felt when they were bullied in the past. Killick and Bowkett (2015) claim that they wanted to design a group that was helpful without being labelled "therapeutic" or "educational". The aim of the group was for adolescents to explore thoughts, feelings and experiences in an alternative way. The group also encouraged problem-solving when spending time working out what Shakespeare meant. Rather than being intellectual, the purpose of the group was trying to understand the feelings, which characters were experiencing more than the precise interpretation of words. It is uncertain as to whether adolescents received a copy of the book following the group.

3.3.3.4.2 Music therapy programme

Patterson et al. (2015) assessed the feasibility of delivering a music therapy programme on an adolescent inpatient unit. The group comprised of sessions in which various active (song-writing, recording, singing, improvisation,) and receptive (listening, lyric analysis, relaxation) techniques were adopted depending on adolescent preferences (set by the group at the beginning of sessions). Groups were held weekly as part of the structured programme and was a core component of treatment. Although adolescents could decline to attend or be excluded if participation was clinically contraindicated, attendance was strongly encouraged. A single-session approach was used. The registered music therapist encouraged adolescents to recognise internal resources and achieve 'therapeutic closure' each session. The duration and format of the music therapy programme was unclear.

3.3.3.4.3 Narrative therapy exercise

Sams et al. (2016) described strength-based care. Strength-based care was built upon the idea that an individual's skills, interests and support systems are essential for designing effective treatment plans (Laursen, 2003; Saleebey, 2009). Simply, strength-based care strives to "identify what is going well, do more of it, and build on it"(Barwick, 2004). Sams et al. (2016) described the consolidation of a strength-based approach with a traditional, medical model of mental health care. This framework encouraged the exploration of individual skills, relationships, goals, strengths and family communication in the inpatient setting.

Sams et al. (2016) identified narrative therapy in their strength-based care framework. Adolescents worked with clinicians on a one to one basis to develop a strength-based recovery narrative. Once this was achieved, adolescents were encouraged to share their narrative with their family. The narrative therapy exercise was adopted if the adolescent's treating team considered it to be beneficial. A psychology or medical student met with the adolescent to gather information (usually between one and two sessions of one to two hours each). Following the review, the narrative was discussed with the adolescent, with opportunities for revisions in terms of therapeutic reflection. Adolescents were encouraged to share their narrative in family sessions. As such, the clinician facilitates a family therapy session whereby the adolescent reads the narrative to their family. This creates a powerful experience for the adolescent of processing the emotions and reactions of their family members.

The narrative therapy exercise challenged the clinician to generate a hopeful narrative. Throughout this narrative lens, the aim was to engage adolescents with more empathy and

creativity. The narrative was written for the adolescent but also encouraged them to share the narrative with their family. Therefore, the clinician had the challenge of creating a strength-based narrative, which united the various viewpoints of the adolescent and their family.

3.3.3.4.4 Artistic activities

C. Bobier, Dowell, and Swadi (2009) identified artistic activities as a non-pharmacological therapeutic intervention. No further details were provided in terms of what the artistic activities were or how they were facilitated.

3.3.3.5 Sensory modulation intervention

West, Melvin, McNamara, and Gordon (2017) described the use of a sensory room. Sensory rooms aim to create positive change via sensory avenues, using various tools which work with the senses (West et al., 2017). The primary aim is to help adolescents regulate their emotions. Therefore, sensory rooms are often suggested for de-escalation purposes, and to reduce the need for seclusion. Occupational therapists (OTs) encouraged adolescents to use various sensory equipment tools such as tactile objects, including stress balls or fluffy toys, weighted blankets-commonly, rocking chairs and sensory oils for calming. Adolescents identified the most helpful equipment for modulating their emotions. This was extremely useful for clinicians when tailoring treatment and individual crisis plans. Adolescents were able to take equipment home or to school to help manage their symptoms. Sensory room sessions were conducted by the MDT who had all been supervised and trained by a senior OT. Training involved identifying signs of distress, assessing an adolescent's sensory threshold and tolerance to sensory stimulation. Each session was held when an adolescent sought access to

the room or it was clinically indicated at the time (e.g., adolescent who appeared distressed). Adolescents were always accompanied by a staff member to ensure safety and guide treatment. The duration of sensory room sessions was unclear.

3.3.3.6 Physical health and individual support intervention

C. Bobier, Dowell, and Swadi (2009) in their account of nurse-led interventions, identified sporting as one of their non-pharmacological interventions. No further information was provided in relation to what type of sport was used or how the intervention was conducted. Similarly, individual support was also identified with no further details.

3.3.3.7 Mindfulness interventions

One of the interventions included in the strength-based care framework described by Sams et al. (2016) was the iMatter group. This group was structured, focusing on mindfulness skills. The group was a manualised, mindfulness-based programme created to improve mindful attention and relaxation skills with adolescents. The iMATTER manual was developed by the unit's psychology trainees, nursing leaders and psychologist. The manual was constructed based on various resources and aimed to provide adolescents with the opportunity to learn and practice helpful strategies. Some of these included relaxation, mindfulness and simple yoga exercises. Several activities took place within the following segments: A: Mindful meditation, B: Mindful movements such as yoga poses, C: Mindfulness activities such as mindful walking, D: Breathing exercises and E: Closing activities. Careful attention was paid to the design of the group room. The purpose was to promote a relaxing environment, with the use of calming music and soothing scents. The duration of the group was unclear.

3.3.3.8 Family/support-based intervention

The strength-based care described by Sams et al. (2016) identified family movie therapy as a non-pharmacological therapeutic intervention. This intervention used enticing movies for adolescents as a therapeutic prompt for discussing confronting issues. The aim was to improve communication and relationship skills between adolescents and their families. Once adolescents received their initial assessment, a movie was "prescribed" to watch with their family. Goals of the intervention were to improve communication skills, reflective listening, validation, and application of the movie's content to their own family crisis. Following the movie, families then met with the therapist for a 60 to 90-minute session to process their responses to the movie and practice communication skills.

3.3.3.9 Pet therapy intervention

Sams et al. (2016) endorsed animal-assisted therapy. Animal-assisted therapy involved weekly one-hour therapy dog visits for adolescents. Adolescents learnt more about the dogs, as they interacted with their owners. Sessions began with introductions and collecting information regarding each adolescent's level of comfort with animals. Most sessions consisted of adolescents stroking the animals and observing them perform tricks. Adolescents were permitted to ask the owners about the therapy dogs and share information about their own pets.

3.4 Discussion

This review aimed to identify non-pharmacological therapeutic interventions for young people admitted to general (non-disorder specific) adolescent mental health inpatient units. The review identified 10 studies conducted across five countries and found 23 non-

pharmacological therapeutic interventions, which were reported. These interventions were classified under nine headings for clarification purposes, although some interventions tend to overlap. Although not every reported non-pharmacological therapeutic intervention would have been identified in this review, it was surprising to find so few studies, particularly for such a vulnerable population.

Although 23 non-pharmacological therapeutic interventions were identified, this included two studies, which listed a range of interventions (C. Bobier, Dowell, & Swadi, 2009; Sams et al., 2016). C. Bobier, Dowell, and Swadi (2009) listed 10 of the interventions, whilst Sams et al. (2016) described 7. The overall paucity of information is surprising given how regular non-pharmacological interventions are a critical component of adolescent inpatient care. Furthermore, these non-pharmacological therapeutic interventions provide an essential element for articulating exemplary models of care.

Whilst this review specifically sought to identify and understand non-pharmacological therapeutic interventions, some descriptions were poor. The limited descriptions of non-pharmacological therapeutic interventions make interpretation challenging. Furthermore, studies lack clarity and consistency when reporting non-pharmacological therapeutic interventions, particularly in terms of their delivery. More elaborate descriptions of these interventions could help mental health stakeholders establish whether an intervention can be applied to their inpatient setting. For instance, availability of resources when considering the implementation of a sensory room. On a practical level, more elaborate descriptions would

be useful for adolescent programme developers, striving for excellence by establishing what is currently being utilised in general (non-disorder specific) adolescent inpatient units.

The psychoeducation intervention lists 'tools', such as 'video resources' and 'games' to improve awareness for adolescents. These descriptions are vague, failing to answer simple questions adolescents, clinicians or managers might have, such as 'What type of video resources or games?' Or, are there specific questions that can be used to facilitate discussions? Although these questions might appear punitive, developing a safe and successful adolescent inpatient model of care is not without its challenges. More information can help those interested in developing a programme, ultimately improving the short and long-term mental health outcomes. Furthermore, improve the quality of care for adolescents and their families.

It is important to acknowledge that most of the interventions identified in this review have their own associated body of literature, such as DBT and Sensory Modulation (Blackburn et al., 2016; Candace Bobier et al., 2015; McDonell et al., 2010; Von Auer et al., 2015). Whilst these studies are available, many target specific diagnoses, such as DBT for Borderline Personality Disorder or Sensory Modulation for Anorexia Nervosa (Brand-Gothelf et al., 2016; Heider et al., 2017; Palmer et al., 2003). Other studies focus on the interventions within specific settings such as eating or substance disorder units (Abdelkarim, Molokhia, Rady, & Ivanoff, 2017; Warner, Koomar, Lary, & Cook, 2013). Furthermore, many of these studies are based on adult populations and outpatient settings (Abdelkarim et al., 2017; Kleindienst et al., 2008). Although this research is vital, attention needs to be paid to the complex needs of

adolescents and range of diagnoses when admitted to general (non-disorder specific) inpatient units.

It is difficult to decipher the 'gold standard model of care' for adolescent general inpatient units, particularly with the limited research. For a 'best of both worlds' approach, an inpatient unit might need to incorporate several of the non-pharmacological therapeutic interventions described, however, more research needs to be conducted. Furthermore, more research is required to examine these non-pharmacological therapeutic interventions and how they interrelate to mental health outcomes, particularly from adolescent and caregiver perspectives, the voice of these stakeholders is currently absent (Varol, Guvenir, & Cevrim, 2010). However, the challenges of conducting and publishing research in 'real world settings' need to be acknowledged. These challenges often relate to limited funding and time, access to adolescents and inpatient units as well as publication biases. A key strength of this review is that it allowed for increased insight into the different non-pharmacological therapeutic interventions. However, there are limitations to consider.

3.4.1 Limitations

The eligibility criteria excluded articles not written in English; thus, non-pharmacological therapeutic interventions in general (non-disorder specific) adolescent inpatient units for other cultures were excluded. The studies included in this review all have methodological limitations, such as small sample sizes and lack of patient blinding. However, the purpose of this review was to identify what non-pharmacological therapeutic interventions were reported from general (non-disorder specific) inpatient units. This study excluded disorder-specific settings and hence might have removed promising non-pharmacological therapeutic

interventions in alternative settings, such as eating disorder inpatient units, which may have had information, which coincides with general (non-disorder specific) adolescent inpatient units. The varying settings also need to be considered in this review in terms of limited generalisability. However, this review aimed to assist those wishing to understand which non-pharmacological therapeutic interventions are currently reported for adolescents in general (non-disorder specific) adolescent inpatient units.

3.5 Conclusion

This review provides current relevant data in an area with little research. The extreme dearth of data from developing countries, compounded by inconsistencies in the descriptions and reporting creates gaps in our knowledge base concerning general (non-disorder specific) adolescent inpatient units. There is a critical need for additional research on non-pharmacological therapeutic interventions in these inpatient settings. Furthermore, more elaborate descriptions in how these non-pharmacological therapeutic interventions are delivered is also required. More detailed descriptions will help mental health key stakeholders identify whether they have the necessary resources to implement such interventions in practice.

Current research fails to identify the 'ideal' or 'exemplary' inpatient model of care for adolescents admitted to general (non-disorder specific) inpatient units. This descriptive review provides one source, which can be utilised in establishing an exemplary model of care. Furthermore, this review can guide healthcare decision making and inform priorities for future research (Bennett & Duda, 2016). Finally, this review provides more accessible and objective information to inform research, policy, and practice, and calls for clinicians to disseminate

their non-pharmacological therapeutic interventions on general (non-disorder specific) adolescent inpatient units.

3.6 Relevance for clinical practice

This descriptive review has identified the non-pharmacological therapeutic interventions being reported in general adolescent inpatient units. This has implications for practice, particularly in terms of understanding adolescent inpatient units and service delivery. The results of this review enhance mental health nurses' knowledge of what is being delivered in contemporary inpatient units. This can encourage discussion amongst adolescent inpatient clinicians attempting to decipher the most important non-pharmacological therapeutic interventions.

The results of this review can prompt change in inpatient units in response to the changing needs of adolescents being admitted. For instance, implementing a sensory room because of the younger age group of adolescents being admitted. The results of this review can help mental health stakeholders establish what resources need to be in place in terms of staffing and resources to facilitate such changes. As well as meeting the changing needs of adolescents, results of this review can inform mental health stakeholders, particularly those in managerial positions. The results of this review are useful for mental health managers observing increasing rates of absenteeism amongst clinicians and burnout. Such observations can prompt necessary changes in service delivery to improve the quality of care, maintain staff and enhance continuity of care.

The results of this review make an important contribution to the research gap concerning adolescent inpatient units and descriptions of exemplary inpatient models of care. This review can inform researchers and clinicians alike wishing to develop and describe an exemplary inpatient model of care to guide current and future services.

Chapter 4

Protocol for a prospective, longitudinal mixed-methods case study: supporting a Model of Care for Healthier Adolescents (The MoCHA study)

Introduction: Improving mental health care for adolescents is a global policy priority. Despite demands for community-based services, many adolescents require more intensive interventions, such as an inpatient admission. This is typically at a point of crisis, often accompanied by intense emotional dysregulation, impairment of coping function and impulsivity. However, limited evidence exists on how best to support this group whilst they are in inpatient care, aside from pharmacological treatments which have a limited role in adolescence. Little is known about the models of care offered in inpatient units, whether adolescents perceive these as helpful, or the perspectives of caregivers and clinicians. Here, we describe a protocol which aims to explore and evaluate an inpatient model of care. Methods and analysis: We designed a longitudinal, mixed methods, case study. The population consists of adolescents, caregivers and clinicians at a single inpatient unit in Melbourne, Australia. Standardised outcome measures will be administered to adolescents at three time-points. These include T1 (admission), T2 (discharge) and T3 (six months post discharge) including semi-structured interviews. Caregivers will also be interviewed at T1, T2 and T3. Clinicians will be interviewed once. The measures include: Life Problems Inventory (LPI), Quick Inventory of Depressive Symptomatology (QIDS-S), Kessler Psychological Distress Scale (K-10) and the Youth Self-Report (YSR). Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) will be collected at T1 and T2. Quantitative analysis will include descriptive statistics and paired t-tests summarising adolescents admitted to the unit, clinical characteristics and longitudinal data on symptomatology. Qualitative data will be analysed

using both thematic and trajectory analysis. Data collection began in May 2017 and will cease with T3 interviews by October 2018.

Strengths and limitations of this study

- To the best of our knowledge, this is the first comprehensive case study design evaluating an adolescent inpatient model of care from the perspectives of adolescents, caregivers and clinicians.
- This study interviews adolescents and caregivers six months post-discharge from the inpatient unit, an advance on cross-sectional studies.
- The knowledge gained from this study has theoretical generalisability rather than statistical generalisability and may have great importance in allocating healthcare resources to benefit adolescents.
- The current study is too brief to show enduring outcomes, however it may provide important data to further evaluation of adolescents admitted to inpatient units and long-term outcomes.
- This study explores a single inpatient unit in Melbourne, Australia, thus limiting generalisability to other inpatient settings.

4.1 Introduction

Adolescence is a period involving the onset of behaviours and conditions that not only affect health during that time, but can also lead to disorders in adulthood (Das et al., 2016). More than 50% of adult mental health disorders typically emerge before the age of 18 years (Jones, 2013; Kessler et al., 2007). Despite efforts of clinicians and researchers worldwide, youth suicide statistics are a serious problem with rates continuing to rise on a global scale (Australian Bureau of Statistics, 2017; Samaritans, 2017; World Health Organization, 2018b). These factors necessitate a focus on the access and care arrangements for adolescents in need of inpatient care (New South Wales Health, 2011). Whilst the majority of adolescents with mental health problems continue to be cared for in the community, there are those who require more intensive treatment interventions such as inpatient care (K. R. Delaney, 2017; Hayes et al., 2018; New South Wales Health, 2011). The primary goals of inpatient care are containment of risk, containment of the dysfunctional distress responses, stabilisation of symptoms and the development of management and problem solving skills to ensure further supports can be facilitated and provided in community settings (Hanssen-Bauer et al., 2011; Tharayil et al., 2012). Limited evidence exists on how best to support this group whilst they are in inpatient care, aside from pharmacological treatments which have a limited role in adolescents (Caspi et al., 2014; Zhou et al., 2015). Furthermore, little is known about adolescent inpatient units and in particular the models of care they provide.

According to Queensland Health (2000), Model of Care is a multifaceted concept, which broadly defines the way health services are delivered. A model of care should describe everything that is provided by the inpatient unit, such as the philosophical underpinnings,

types of treatment, therapeutic interventions, staff and interdisciplinary team, support groups, design of the unit physically and organisationally, treatment planning approaches and if it is person centred and driven. Therefore, a model of care should include the fundamental characteristics and components of which the inpatient unit is comprised, so that others may ascertain to what extent this model of care can be applied elsewhere. Instead, current studies tend to focus on the organisational structure, such as capacity, number of beds and length of stay, rather than components which matter most to the adolescents, caregivers or clinicians (Hayes et al., 2018). For instance, few studies indicate whether their model of care is manualised. Such information would be of benefit to those aiming to evaluate or improve adolescent inpatient units.

Internationally, the model of care concept varies. In Australia, the term model of care is often referenced in terms of community-based models. This includes organisations such as Headspace, which originated in Australia. The Headspace model has been replicated in other countries such as Denmark, Israel and California, as Jigsaw in Ireland and as Youthspace in the United Kingdom (P. D. McGorry & Mei, 2018). All of the models are government-funded and governed by similar principles. This includes stigma-free early intervention services to support 12-25 year olds with emerging mental health disorders (P. D. McGorry & Mei, 2018). Unlike community-based models, less is known about a desirable inpatient model of care for adolescents and how this might differ for public and/or private settings.

Indig et al. (2017) examined when inpatient care is most effective, as well as the appropriate model of care for the treatment of children and adolescents with moderate-to-severe mental disorders. In their report of a rapid literature review, these researchers claimed there are a

range of models used for providing care to young people in the inpatient setting (Indig et al., 2017). However, their portrayal of the model of care in each study did not provide sufficient details or descriptions for imitation and/or comparison of practices. Similarly, a recent systematic review found that adolescent inpatient unit studies were lacking in their ability to capture inpatient settings and the model of care (Hayes et al., 2018). Following the review by Indig et al. (2017), table 4.1 was constructed to understand what we currently know about adolescent inpatient model of care, and has been divided into three levels, which are policy, organisational and individual.

Table 4.1: Features of an inpatient model of care for adolescents

	Policy Level	Organisational Level	Individual Level
What What should be provided?	Profit/Non-profit Hospital Referral System Waitlist for Admission Clear Admission Policies On-Site Schooling Medical Facilities on Site Teaching/Non-Teaching Hospital	Number of Beds Outreach, Outpatient Supports Case Coordinators Length of Stay Staff Training	Stabilisation
Who Who should provide it?	Crisis Admissions/ Not for Crisis Admission	Multi-Disciplinary Teams	Accepted Mental Health Disorders Criteria for Exclusion Accepted Age Range
Where Where should it be provided?	Location Catchment Area		

Particularly in the last 10 years, adolescent studies which refer to the model of care predominantly discuss models outside the inpatient setting, such as models suggested as alternatives to inpatient care or nurses' proposed development of the model of care in which they practice (Adrian & Smith, 2015; Foster & Isobel, 2018; Shepperd et al., 2009). Other inpatient unit studies primarily focus on effectiveness, narrowly defined in terms of symptom

stabilisation from admission to discharge, reporting effectiveness for the majority of adolescents (Hayes et al., 2018). In addition to the methodological limitations, these studies fail to portray in any detail the model of care adopted from the adolescents' perspective, giving rise to inadequate reporting, gaps in understanding how a model of care is experienced and making difficult the potential for comparisons and interpretation difficult. Therefore, the lived experience perspective is essential given the policy directives to involve the participation of consumers in the planning, design and evaluation of services (United Nations, 2017).

Overall, the term model of care term is adopted occasionally in the adolescent inpatient literature, does not appear to have a consistent definition and is poorly understood. Therefore, an examination of how adolescents understand and experience a model of care from the inpatient setting is essential and will assist to clarify what is required for a contemporary model of care. More importantly, a well-articulated model of care might support improvements either in experiences of care and mental health outcomes for adolescents. This protocol describes a study to explore and understand an inpatient model of care for adolescents, using a longitudinal mixed-methods case study design. It aims to address important gaps in previous studies, particularly in relation to reporting and from adolescents, caregivers and clinicians' perspectives. This comprehensive approach to studying an adolescent inpatient model of care will lay a foundation for determining the effectiveness and future application of such models in both public and private settings.

4.1.1 Aim and research questions

The overarching aim of the Model of Care for Healthier Adolescents (MoCHA) study is to further understanding of a current adolescent model of care for academic, policy and practice

purposes, to support systematic work to improve mental health outcomes for young people. The longitudinal mixed methods study will address the following aims:

1. To describe a current inpatient model of care for adolescents.
2. To explore the experiences of adolescents, caregivers and clinicians in relation to the model of care.
3. To evaluate the perceived helpfulness of the model of care on adolescent mental health, symptoms and quality of life from the perspectives of adolescents, caregivers and clinicians.

Research Questions

1. What is the model of care?
2. What are the experiences of adolescents, caregivers and clinicians in relation to the model of care?
3. Do adolescents, caregivers and clinicians perceive the model of care to be helpful for mental health, symptoms and quality of life?

4.2 Methods

4.2.1 Study design and population

A prospective, longitudinal, mixed-methods, case study design was adopted to explore and evaluate an adolescent inpatient model of care. The inpatient unit to be investigated will serve as the single case in this study. This paper describes the protocol for the whole study.

The study population will consist of adolescents who are admitted to an inpatient unit, their caregivers and clinicians who work on the inpatient unit. Quantitative and qualitative data will be collected from adolescents at baseline (admission to the inpatient unit, T1), discharge from the inpatient unit (T2) and six months post discharge (T3) (May 2017-October 2018). Qualitative data will be collected from caregivers at all three time-points to gain in-depth knowledge on processes and experiences. Clinicians will be invited to participate in one interview and these will be conducted between December 2017 and July 2018. The combination of quantitative and qualitative data will be used to describe the model of care, evaluate effectiveness where possible, the areas for improvement and to strengthen insight in relation to participants experiences of it. Furthermore, it will inform the understanding and examination of the model of care and its interrelationship with the outcomes and experiences of adolescents.

While the quantitative and qualitative data will be analysed separately using appropriate methods, a complementary analysis of both data sets will seek to establish the key features regarding the current model of care. These key features will be guided and developed from the Model of care descriptions provided in previous studies, in an effort to capture the model in its entirety. Table 4.1 will be used as a baseline for features used to describe the current adolescent inpatient Model of care. This will also be used to help guide a model of care framework from certain elements identified in the experiences of adolescents, caregivers and clinicians. This will include the organisational structure of the unit, therapeutic content of the programme and interventions provided. A detailed description of the type of adolescents who are admitted to the unit will also be provided, such as primary diagnosis, age, sex and mental health history. In addition, routinely collected data will be employed where possible.

The experiences of adolescents and caregivers in terms of previous mental health services will be explored at T1, as well as engagement with professionals, precipitating factors leading to the current admission and experiences of symptoms. T2 and T3 data will explore the experiences of the inpatient admission, as well as discharge from the service and management of symptoms. All of these concepts and dynamics will contribute to the model of care description and the trajectories analysis. This will allow the identification of key components of participant's experiences of the inpatient admission and clarify what possible interventions could be of benefit to adolescents, caregivers and clinicians.

4.2.2 Study setting

The MoCHA study will be conducted at the Albert Road Clinic (ARC) in Melbourne, Australia. ARC is part of Ramsay Health Care, which provides private healthcare in the United Kingdom, Australia, France, Indonesia and Malaysia. The adolescent inpatient unit, known as 'Pathways' is part of an 80-bed private hospital setting, which has been operating since 1975. The current model of care being offered on the inpatient unit has been in place since 2006. It is an important setting to study, as adolescents are admitted on a voluntary basis. This study setting is particularly valuable, as the adolescents participate in the compulsory therapeutic group programmes, which are facilitated by members of the Multidisciplinary Team (MDT), Monday to Friday from 09:00 to 16:30. The single case study design will enable greater depth in understanding a model of care, however not all elements will be translatable to other settings.

The inpatient unit has 10-12 beds and caters for adolescents between the ages of 12 and 22. The variability in 10-12 beds is based on the cohort at the time and how adolescents are engaging with each other. This is decided based on discussions with the MDT and the Medical Director of the unit. The unit sits alongside an adult inpatient unit and all staff work across the adult and adolescent population. All staff work informed by Dialectical Behaviour Therapy (DBT) principles and receive monthly training. A weekly Adolescent Team Meeting takes place, where all adolescents are reviewed, with psychiatrists and members of the MDT in attendance. A wide variety of mental health disorders are accepted, provided the individual is evaluated as having the capacity to participate in group work and has the ability to engage in the programme.

4.2.3 Participant recruitment

Participant recruitment began in May 2017 and data collection will continue until October 2018. The study will enrol three groups of participants: adolescents who have been admitted to the inpatient unit; their caregivers; and a sub-set of clinicians who work on the inpatient unit. Adolescents and their caregivers will be invited by the first author to participate in the study upon admission to the inpatient unit. They will be provided with participation information and consent forms. The information will provide details about the nature and purpose of the study, as well as any associated potential risks. The adolescents and caregivers will be asked to contact the first author if they are interested in participating in the study. Like the general population, the adolescent participants will be heterogeneous, for example, in terms of age, sex, as well as the type of mental disorders. Table 4.2 shows details of eligibility criteria for the adolescent group.

Clinicians working on the inpatient unit will be invited by the first author to participate in the study during brief allocated times between clinical handovers. Participant information and consent forms will be provided. Interviews will be arranged at a time that is most convenient for the adolescent and/or caregiver. Interviews with adolescents will occur in the evening in a spare office on a separate floor to the inpatient unit, once the group programme is finished for the day. Interviews with caregivers will be conducted at a more suitable time for the caregiver, depending on work hours.

Table 4.2 Eligibility criteria

Inclusion criteria

- Persons, 12-22 years.
- Has a mental health disorder.
- Receives inpatient treatment.
- Participates in the inpatient programme.
- Provides informed consent to participate in study.
- Caregivers provide informed consent for their adolescent to participate.

Exclusion criteria

- Not able to complete questionnaires.

4.2.4 Sample size

The 'Pathways' unit typically admits approximately 100 adolescents annually. In terms of recruiting for the *qualitative component*, an estimated uptake rate of 40%-50% is expected due to the longitudinal nature of data collection, equating to approximately 40-50 adolescents and caregivers. Had the study not required longitudinal data, a higher response rate could be anticipated. Retention of participants over a long period of time is challenging due to various factors such as returning to school, relapse of mental illness and other family issues (Polit & Beck, 2008). However, given that data saturation (that is, repeated and shared themes across

the interviewees) will likely occur prior to this stage, interviews will most likely cease once 10-12 full data sets at admission T1 (admission), T2 (discharge) and T3 (six months post discharge) (Guest, Bunce, & Johnson, 2006). Ryan and Bernard (2003) claim data saturation depends on the complexity of data, investigator fatigue and number of analysts reviewing the data (Ryan & Bernard, 2003). Among the clinicians, it is anticipated that 10-12 interviews will suffice to capture the description of the model of care (Guest et al., 2006). In terms of the *quantitative component* and in order to capture a larger descriptive representative sample, adolescents who do not wish to participate in the qualitative component will be asked if demographic data can be obtained from their medical file, to represent a larger subset. The goal for recruitment for this phase is 77 (Faber & Fonseca, 2014). The anticipated sample size is based on a review of previous adolescent inpatient unit studies (Burgess et al., 2009; Hanssen-Bauer et al., 2011; Hayes et al., 2018). However, it is important to report that these previous studies demonstrate considerable variability in response rates and effect sizes. The anticipated sample size is based on a study within Australia and using the same outcome measure (Burgess et al., 2009).

4.3 Data collection

The MoCHA study will provide multiple sources of evidence for the exploration of the model of care. This evidence will come from three main sources, demographic data, administered validated standardised outcome measure questionnaires and face to face semi-structured interviews. Data will be collected from May 2017 to October 2018. The data recruitment strategy for this study is presented in figure 4.1.

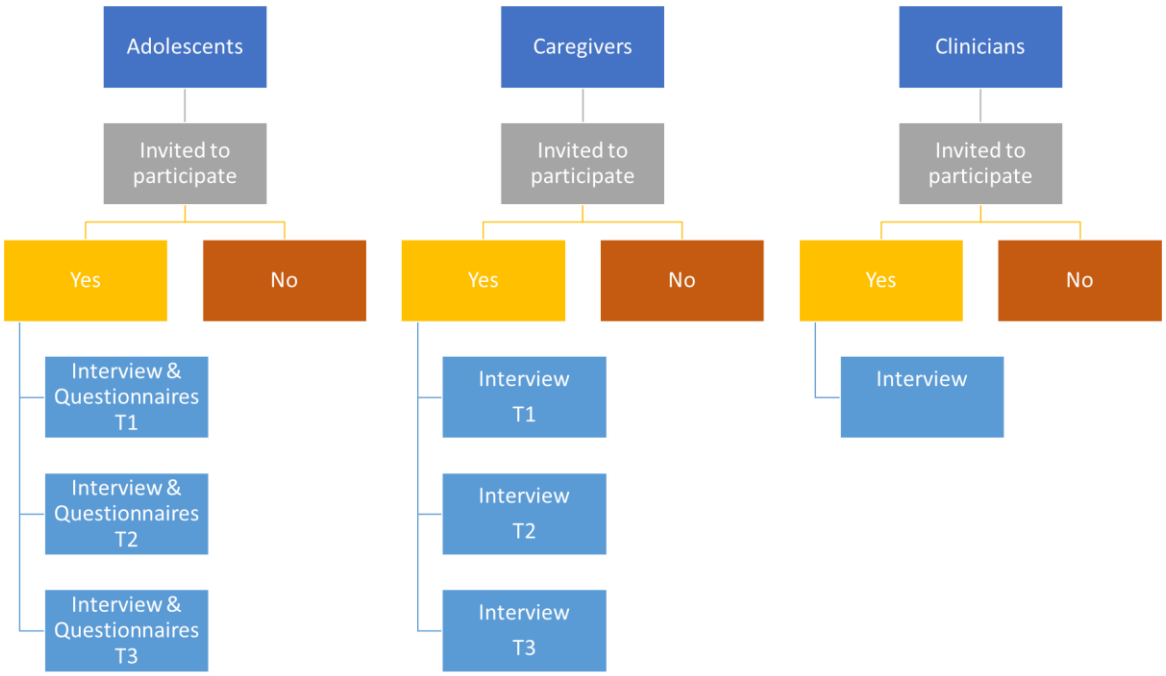

Figure 4.1 Flow diagram of recruitment strategy (MoCHA, Model of Care for Healthier Adolescents)

4.3.1 Demographic data

Demographic variables will be recorded in relation to the following: age, gender, ethnicity, postcode, socioeconomic status, length of hospital admission, previous hospital admissions, family and education history.

4.3.2 Questionnaires

Prior to each interview, adolescents will be asked to complete the outcome measure questionnaires. These questionnaires will allow the research team to observe whether aspects such as Quality of Life (QOL), anxiety, depression, emotional regulation and impulsivity change over time. Furthermore, these questionnaires will be used to help answer aims 2 and 3 of this study.

1. Life Problems Inventory (LPI): The 60-item consistent and validated self-report instrument was developed to assess emotion dysregulation, impulsivity, interpersonal chaos and confusion about self (Rathus, Wagner, & Miller, 2015). (T1, T2 and T3)
2. Quick Inventory of Depressive Symptomatology (QIDS-SR): 16-item self-report instrument developed to assess depressive symptomatology. Satisfactory validity and reliability for adolescent population (Bernstein et al., 2010). (T1, T2 and T3)
3. Kessler Psychological Distress Scale (K-10): A 10-item self-report measure of psychological distress, which has been shown to be highly correlated with the presence of depressive or anxiety disorders (Chan & Fung, 2014). (T1, T2 and T3)
4. Youth Self-Report (YSR): Widely used self-report 112-item measure used to assess emotional and behavioural problems (Ebesutani, Bernstein, Martinez, Chorpita, & Weisz, 2011). (T1, T2 and T3)
5. HoNOSCA-SR (Health of the Nation Outcome Scales for Children and Adolescents): 13-item self-report measure for general health and social functioning (S. Urben et al., 2014). (T1 and T2).

These measures were selected to provide an objective standardised measure of changes over time. The LPI measures emotional dysregulation, impulsivity, interpersonal chaos, and confusion about self. The QIDS-S measures depressive symptomatology, whilst K-10 measures psychological distress. The YSR measures problem behaviours, whilst HoNOSCA measures general health and social functioning. All measures have been widely used in adolescent settings and have shown good reliability. The first author will assist participants to complete the questionnaires, as required, which should take up to 30 to 40 minutes and this will occur

prior to the interview to minimise the influence of topics discussed on written questionnaire completion.

4.3.3 Semi-structured interviews

Semi-structured face-to-face interviews will be conducted, on a separate level to the inpatient unit at ARC for confidentiality purposes. Interviews will take approximately 30 minutes to 60 minutes for clinicians, and 30-90 minutes for each interview with adolescents and caregivers.

Semi-structured interview schedules were developed based on qualitative methodology guidelines (J. A. Smith, Larkin, & Flowers, 2009). These schedules are designed to be flexible with non-directive questions. During the development stage of the adolescent and caregiver semi-structured interview schedules, regular consultation will be sought from the medical director of the inpatient unit. Throughout this process, the "I don't know" responses will be considered, which often occur when interviewing adolescents. The format of the schedules was chosen to allow the interviewer to remain flexible and follow-up on potential themes emerging at each interview. The adolescent and caregiver interview schedules are similar, exploring the adolescent's background and previous mental health treatments, mood, anxiety, quality of life and relationships. The researchers will pay close attention to how adolescents are managing their mental health symptoms at T1, T2 and T3. The adolescent and caregiver interview schedules will be used flexibly, drawing upon examples given at previous interviews. Open and non-directive questions will be asked as much as possible to limit the influence the interviewer has on the answers given by participants. At times, more direct questions and follow-up probes may be required to clarify themes that are emerging, to ensure that rich descriptions are obtained.

4.3.3.1 Interviews with adolescents, caregivers and clinicians

Consenting adolescents and caregivers will be interviewed separately and interviews will occur at T1 (admission), T2 (discharge) and T3 (six months post discharge). The interviews with clinicians will aim to capture the clinician's views of the inpatient model of care and their perspectives of the work, which they pursue every day. These interviews also aim to capture the various therapeutic interventions, which occur on an inpatient unit. See table 4.3 for the semi-structured interview schedules to be used in this study. The interview schedules were also developed in consultation with the medical director of the inpatient unit.

Table 4.3 Semi-structured interview schedules

Adolescents

- Views on previous mental health services and interventions
- Relationships with mental health professionals
- Precipitating factors leading to inpatient admission
- Experience of mental health symptoms and quality of life
- Management and coping with symptoms
- Expectations of the inpatient model of care
- Experience of inpatient admission and perceived helpfulness

Caregivers

- Views on previous mental health services and interventions
- Relationships with mental health professionals
- Precipitating factors leading to inpatient admission
- Experience of symptoms and quality of life
- Management and coping with symptoms
- Expectations of the inpatient model of care
- Experience of inpatient admission and perceived helpfulness

Clinicians

- Most important features of the model of care
- Benefits of an inpatient model of care
- Barriers to facilitating an effective inpatient model of care

4.3.3.2 Transcription

All interviews will be recorded on an audio device (with consent obtained from participants) and transcribed professionally. All transcripts will be checked against the audio files for accuracy, and any references, which might identify the participants will be removed. The same process will occur for clinicians, due to the small number working on the inpatient unit. Transcripts will be stored on a password protected database, and will be coded using NVivo V.10 (qualitative data management software) (QSR International Pty Ltd, 2012).

4.4 Data analysis

The data from the sub-set of clinicians will be utilised to describe the model of care and analysed using a thematic approach. The case will be formulated from the researcher's own knowledge of the research setting, discussions with key stakeholders, such as the medical director of the inpatient unit, as well as admitting psychiatrists. The data from the sub-set of clinicians will be utilised to describe the model of care and analysed using a thematic approach. The thematic analysis approach will be adopted to derive major and minor themes as guided by Braun and Clarke (2006). Longitudinal data from adolescents and their caregivers will be used to explore their experiences of the model of care. Furthermore, it will be adopted to evaluate the perceived effectiveness of the model of care on adolescent mental health, symptoms, quality of life and recovery. The longitudinal data will be analysed using a trajectory approach to explore the experiences and perceived helpfulness. The questionnaire outcome data will be incorporated to understand and answer some questions related to the model of care such as, what's working, why, how, for whom does it work best, for whom doesn't it work and why?

4.4.1 Qualitative component

Qualitative interview data from adolescents and caregivers will be used in two ways. First to explore thematically the experiences of the model of care and interactions with different elements and areas for improvement and strengthening. Thematic analysis was chosen as opposed to content analysis due to the semi-structured nature of the interview schedules and allowing unexpected themes to arise. Second, it will be used longitudinally to explore and understand from a trajectory-based approach the experiences as they relate with outcomes and effectiveness. Trajectory analysis focuses on changes over time and is often recommended to understand healthcare processes (Grossoehme & Lipstein, 2016). Grossoehme and Lipstein (2016) suggest using time-ordered, sequential matrices, as time-ordered displays can preserve "chronological flow" and permit understanding of what led to what (Miles & Huberman, 1994).

Codes will be identified from the interviews, clustered and formulated into themes. The data will be organised within matrices, with one matrix per unit of analysis, such as the adolescent, caregiver or the adolescent and his or her caregiver or other grouping. Codes from participants, such as adolescents will be identified via labelling, through the use of colour coding. This will be conducted to create a visual overview of the data. This first set of matrices will be organised with themes, along the Y-axis and time along the X-axis (see table 4.4 for example). Once the coding has been completed, longitudinal analysis will begin. This step will focus on how the data changed or did not change over time. To organise the findings, another matrix will be needed. The Y-axis will again be organised by themes, whilst the X-axis will be organised according to the primary units of analysis (see table 4.5 for example). As coding for the second matrix progresses, new conceptual groups might be needed as the original

groupings will likely focus on cross-sectional concepts and new, time-related concepts will emerge during coding. Data analysis will be conducted from the second matrix in which the codes will be focused on time (Grossoehme & Lipstein, 2016).

Table 4.4: Sample adolescent matrix

Themes	T 1	T 2	T 3
Theme A (example: acceptance)	Lots of worries about not being *accepted* by their family	Feeling worried that other adolescents won't *accept* them	Less worry about acceptance. Feels accepted by other adolescents
Theme B (example: hope)	Worried that there is not hope for the future.	Less worry about the future.	Feeling hopeful about the future and making career plans

Table 4.5: Sample adolescent longitudinal analysis matrix

Themes	T 1	T 2	T 3
Theme A (example: change in acceptance over time)	Change from worried about acceptance within the family to acceptance by peers. Moved towards acceptance after admission.	Idea from adolescent	Idea from adolescent
Theme B (example: changes in hope over time)	Change from having no hope for the future to making career plans.	Idea from adolescent	Idea from adolescent

Although the first author will undertake the primary coding and analysis, the analysis process will be discussed with supervisors at regular meetings. In addition, a smaller subsample will be double coded during the initial stages of the analysis. However, this will not take place during the trajectory analysis stage, as this would be too difficult and likely interfere with the analysis process. The results of all analyses will be discussed by the entire supervisory research team. The data analysis process will adhere to the quality criteria described by Lincoln and Guba (1985). This is to ensure trustworthiness and rigour, in terms of credibility, transferability, dependability and confirmability. Although member checking will not be adopted, the first author will regularly clarify participant responses throughout the interviews to minimise the risk of misinterpretation.

4.4.2 Quantitative component

The demographic information collected at baseline (T1) will be tabled. Categorical variables will be reported as raw numbers and percentages. Reports of continuous variables will include mean, median, range and SD. The statistical analyses will be performed using Statistical Package for the Social Sciences (SPSS) software. Paired t-tests will be conducted with 0.05 significance level. Paired-sample t-tests will be conducted to evaluate whether there is a significant difference between T1, T2 and T3 on the LPI, K-10, QID-SR,YSR and HoNOSCA mean score ratings. Pearson product-moment correlation coefficients will be calculated to investigate associations between outcome measure score disparity/admission scores between T1, T2 and T3. Correlations will be performed separately for each diagnostic category and for all participants collectively, to identify associations between components of the model of care and outcomes regarding symptoms and quality of life. Finally, repeated measures ANOVA will be conducted, along with subsequent paired t-tests to analyse differences between specific time points.

4.5 Data management and monitoring

Throughout this study, measures will be implemented to manage data and protect participant's identity. Following the interview process, audio tapes will be transferred to a password-protected computer and returned to a secure location. Once the audio tapes are transferred, the interview will be removed from the device. Field notes and transcripts will also be stored in a secure location. Codes will be allocated to participants' names, maintaining anonymity throughout the study. Participants will also be informed that publications or any other disseminated data will not include entire interview transcripts in the event of being

identified. Instead, themes will emerge from the data which will be supported by quotations from the transcripts. All data will be stored in accordance with the Data Protection Act.

4.6 Limitations

There are limitations which pertain to this study. This study will explore a model of care at one inpatient unit in Melbourne, Australia. Therefore, results may not be generalisable to other inpatient units. Evaluations of adolescent inpatient units are not always subjected to rigorous research designs such as the absence of randomised controlled trials. However, this study will add to evidence-based healthcare, by employing research methods which help to describe in detail and understand an inpatient model of care. The anticipated sample size is small. However, this study seeks to explore analytical generalisability rather than statistical generalisability. All participants will be approached, but there is no control group and participants in this study will not be randomly assigned, so there is potential for selection bias. Finally, future hospital admissions will be not assessed after T2 unless discussed by participants in the interview.

4.7 Conclusion

Adolescence is an important time for early intervention, with the aim to minimise the risk of further deterioration and ultimately improve both short and long-term outcomes. The novel design of this study, drawing upon qualitative and quantitative approaches has the potential to produce important advances in terms of what we know about inpatient care. Better articulation of what a model of care is comprised of, and the ability to describe these elements, may see greater implementation of clear models of care with outcomes. It is anticipated that the longitudinal mixed-methods research approach will enable a richer understanding and exploration of the trajectories of participants. This study will utilise the

knowledge gained from adolescents and their caregivers who experience an inpatient admission, to inform other settings, in terms of key components which are perceived to be most or least helpful. The findings will provide new information to inform relevant stakeholders when developing or implementing a similar service. The findings of this study will also address an important research gap, by providing what appears to be the only attempt to comprehensively explore and understand a model of care for adolescents, to guide and direct future models.

4.8 Patient and public involvement statement

The research question and outcome measures were chosen based on discussions with key stakeholders of adolescent mental health services, as well as investigating the available adolescent inpatient outcome studies. Adolescent discussions took place to establish their priorities in terms of perceived improvement in areas such as quality of life. This also occurred with clinicians who work on the inpatient unit. The research design was presented to adolescents at a youth mental health conference, ensuring their participation and input in the design. Adolescents will not be involved in the recruitment stages of the study. However, we endeavour to disseminate findings to adolescents, their families and clinicians at knowledge exchange workshops and conferences locally and internationally.

4.9 Ethics and dissemination

Ethical approval was sought and granted by the Ramsay Healthcare Ethics Committee (protocol number EC00242). Once approval was granted, the study was registered with the University of Melbourne's ethics committee. The ethical approval process involved submitting a detailed research proposal to the committee. Following the committees' review of the

research proposal, a meeting took place. Potentially harmful aspects of the study were raised and discussed by members of the committee and attendees. The issues were primarily based on the dual researcher/clinician role and research with vulnerable adolescents. Issues regarding anonymity of participants throughout the study also arose and were discussed.

Once the issues were discussed, a conscious effort was made to assure the ethics committee that appropriate measures would be put in place to protect participants. Such measures included ensuring data would be securely managed, interviews would be held in a private location with minimal distractions and entire interview transcripts would not be published. It was also decided that a clinician not working with the adolescent participants would obtain informed consent for the duration of the study. The separation of the clinician and researcher role was discussed and how this would be maintained throughout the study.

Ethical approval took several months to ensure any unethical issues were avoided. The research study was ethically approved by both committees on the 22nd April 2017. Written informed consent will be obtained from all participants in the study, once they had read and understood information regarding the study. Consent will also be required from a caregiver of an adolescent, should they wish to participate.

Findings from this study will be submitted for publication in peer-reviewed journals, and to national and international conferences relating to adolescent health services and quality improvement. A report will be compiled and presented to clinical staff and management. The summative evaluation report will be presented to Ramsay Healthcare. A knowledge exchange workshop will be facilitated to present findings to key stakeholders such as Ramsay healthcare

and adolescent participants to discuss ways in which findings can be implemented and improved in the future. Social media will also be used as a platform to disseminate findings.

Chapter 5

A profile of adolescents admitted to a private inpatient unit and mental health outcomes

Objective: To characterise adolescents admitted to a voluntary adolescent inpatient unit and investigate treatment outcomes. Method: A retrospective cohort design was employed. Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) pre- and post-admission scores were collected, measuring global functioning. Demographic variables such as age, gender, primary diagnosis, comorbidity and length of stay were analysed. Data were collected from May 2017 to April 2018. All adolescents admitted to the inpatient unit were included. Results: The majority of adolescents (n=72; HoNOSCA data available on n=57) were 16 years of age (26%), female (82%) and with a primary diagnosis of a mood disorder (57%). Most adolescents improved at the time of discharge. Self-injury and emotional symptoms had greater reductions according to clinician and adolescent-self-ratings ($p<0.01$). Mean change (improvement) in HoNOSCA total score was 7.3 (SD 7.5) based on clinician ratings and 7.2 (SD 9.5) for adolescent-self-ratings. The mean length of stay was 28 days (SD 15.8). Conclusions: The inpatient unit proved effective at meeting the needs of young people in terms of symptom stabilisation. Further research is needed to describe adolescent inpatient models of care, the operations and philosophies to better examine how these relate to treatment outcomes.

5.1 Introduction

An adolescent inpatient admission is sought for those with severe behavioural or emotional disturbances, causing major impairment. Despite attempts to treat adolescents in community settings, inpatient units remain a frontline treatment option. This is evident with the increasing demand for adolescent inpatient care (K. R. Delaney, 2017).

Adolescent inpatient units often provide an effective approach at least for symptom reduction. A recent international review of public and private inpatient units found that adolescents improved in at least one area of symptomatology from admission to discharge. However, evidence is limited. The review found only 16 studies since 2000 with 50% of these conducted over 10 years ago. In Australia, no studies have been conducted in the last decade and few describe models of care and the relationship of these with outcome.

Given the need for early interventions, more research is warranted to examine adolescent inpatient units and understand how best to support this group (K. R. Delaney, 2017). It is now recognised that government funded models such as 'Headspace' only serve some young people and are struggling to meet the needs of more complex adolescents (Higgins & Collard, 2019). To address this gap, this study aims to characterise adolescents admitted to a voluntary adolescent inpatient unit and assess outcomes. Analysing the outcomes for a cohort of adolescents provides reflection of the efficacy of the service and areas for improvement. Ultimately, this study provides a snapshot, sharing insight into the current evidence gaps and information about

effectiveness of a particular model of care. Ethical approval was granted by the local human research ethics committee.

5.2 Method

5.2.1 Population and setting

Data were collected from adolescents admitted to a private unit in Melbourne, Australia between May 2017 and April 2018. The unit has 10-12 beds for young people aged 12-22 years. Adolescents are admitted with a range of mental health disorders, provided the adolescent is determined to have capacity to participate in the inpatient programme. Referrals are received from General Practitioners and Allied Health professionals. There is a waitlist, which can vary from two to three weeks depending on demand. Therefore, the unit is not a frontline emergency admission setting. The mix of full and part-time staff are multidisciplinary, consisting of Registered Nurses, Endorsed Enrolled Nurses, Psychologists, Occupational Therapists and Psychiatrists. A range of evidence-based group programs are offered from Cognitive Behavioural Therapy, Dialectical Behaviour Therapy (DBT) to mindfulness. The unit describes itself as DBT informed while including other therapeutic interventions (Hayes, Simmons, et al., 2019b).

5.2.2 Study design, method and procedures

We conducted a retrospective cohort study. Demographic data included age, gender, ethnicity, Length of Stay (LOS) and previous admissions (any other mental health setting including current setting). Diagnostic information was obtained by reviewing patient

discharge summaries. The first diagnosis listed on the discharge summary was considered the primary diagnosis and subsequent diagnoses were considered comorbid diagnoses.

Data were collected at admission (T1) and discharge (T2) using the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) (Gowers et al., 1999). HoNOSCA is a validated measure of behavioural, symptomatic and social problems (S. Urben et al., 2014). HoNOSCA consists of 15 items, however this study used only items 1-13 as the inter-rater reliability of items 14-15 have been debated (Pirkis et al., 2005). Scores are given for each item, ranging from 0 (no problem) to 4 (severe). The HoNOSCA *total score* is the sum of the scores for the 13 items (range 0-52; higher score indicating severity). Clinicians, predominantly Registered Nurses and Endorsed Enrolled Nurses allocated to care for the adolescent on the day of admission and discharge completed the relevant HoNOSCA. Clinicians received HoNOSCA training by the first author and good inter-rater reliability was observed prior to T1. Adolescents rated HoNOSCA at the same time-points as clinicians. HoNOSCA ratings were excluded if an admission was less than 24 hours.

Statistical analyses were performed using SPSS software (Version 25). Paired-sample t-tests were conducted to evaluate whether there was a significant difference between T1 and T2 and HoNOSCA mean score ratings. All significance tests were two-tailed and significance was set at 0.05 to illustrate statistical significance and clinical importance. Improvement scores were determined by admission total score minus discharge total score.

5.3 Results

5.3.1 Profile of adolescents

Participants (N=72) ranged in age from 13 to 21 years (mean 16.2; SD 1.61) with 59 females (81.9%) and 13 males (18.1%) (table 5.1). Sixty-six (91.7%) were Caucasian and 8.3% (n=6) from other ethnic groups. It was the first inpatient admission for nearly 50% of the sample (n=34). The LOS ranged from one to 67 days (mean 28; SD 15.82). The majority of adolescents had a primary diagnosis of a mood disorder such as Major Depressive Disorder (n=41; 56.9%) followed by anxiety disorders such as Generalised Anxiety Disorder (n=18; 25%) (table 5.1). Diagnostic comorbidity was present in 73.6% (n=53) of the sample, with adolescents receiving more than one diagnosis on discharge.

5.3.2 Clinical outcomes

Of the 72 adolescents admitted, 15 adolescents did not have any clinician-rated HoNOSCA scores either at T1 or T2 and therefore were removed from analysis. Similarly, 16 adolescent-rated HoNOSCA reports were absent. Therefore, clinical outcome data were available for 57 clinician rated-reports and 56 self-rated. This occurred in instances where an adolescent might discharge against medical advice and refuse to complete relevant HoNOSCA reports.

The mean clinician-rated HoNOSCA total score was 14.38 (SD 6.69) at T1 and 7.1 (SD 5.2) at T2 (paired sample t=7.3; d.f.=56; p< 0.001) (tables 5.2 & 5.3). Items which showed least change were 8 (psychosomatic problems), 6 (physical illness, disability), 7 (hallucinations, delusions) and 13 (poor school attendance). For the 56 adolescents, the

mean HoNOSCA self-report total score was 25.6 (SD 7.9) at T1 and 18.4 (SD 8.0) at T2 (paired sample *t*=5.6; d.f.=55; p< 0.001). Least change was observed for items 6 (physical illness, disability) and 12 (family problems).

Table 5.1: Characteristics of adolescents admitted to inpatient unit (N=72)	
Age: Mean years (SD)	16.2 (1.5)
Gender: (% female)	81.9% (n=59)
Length of stay: Mean days (SD)	28.0 (15.8)
Ethnicity: (% Caucasian)	91.7% (n=66)
First hospitalisation: (%)	47.2% (n=34) Yes 45.8% (n=33) No 7% (n=5) Missing
Primary diagnosis on discharge*	1. Mood disorders 56.9% (n=41) 2. Anxiety disorders 25% (n=18) 3. Psychotic disorders 4.2% (n=3) 4. Autism spectrum disorders 4.2% (n=3) 5. Somatoform disorders 2.8% (n=2) 6. Eating disorders 2.8% (n=2) 7. Personality disorders 1.4% (n=1)
Second diagnosis on discharge (n=53)	1. Anxiety disorders 38.9% (n=28) 2. Personality disorders 11% (n=8) 3. Mood disorders 6.9% (n=5) 4. Autism spectrum disorders 6.9% (n=5) 5. Developmental disorders 2.8% (n=2) 6. Substance use disorders 2.8% (n=2) 7. Eating disorders 2.8% (n=2) 8. Psychotic disorders 1.4% (n=1)
Diagnostic comorbidity on discharge	73.6% (n=53) Yes 23.6% (n=17) No 2.8% (n=2) Missing
*Missing data for 2 adolescents	

Table 5.2: Clinician-report (N=57) and self-report (N=56) outcomes		
	Test of differences (T1-T2) (N=57)	**Test of differences (T1-T2) (N=56)**
HoNOSCA Items	***P*** [a]	***P*** [a]
1. Disruptive, aggressive problem	0.046*	0.011*
2. Overactive, attention difficulty	0.002**	0.000***
3. Self-injury	0.000***	0.000***
4. Alcohol, drug misuse	0.004**	0.001**
5. Scholastic or language skills problem	0.022*	0.000***
6. Physical illness, disability	0.140	0.845
7. Hallucinations, delusions	0.115	0.024*
8. Psychosomatic problem	0.196	0.004**
9. Emotional symptoms	0.000***	0.000***
10. Peer relationship problem	0.000***	0.001**
11. Self-care, independence problem	0.003**	0.000***
12. Family problem	0.028*	0.336
13. Poor school attendance	0.088	0.000***

	Mean (SD)		Mean (SD)	
HoNOSCA total score (sum scale1-13)	14.4 (6.6)	7.1 (5.2)	25.6 (7.9)	18.44 (8.0)
P=	<0.01**		<0.01**	
*P<0.05, **P<0.01, P<.001***				

Table 5.3: Clinician-report (N=57) and self-report (N=56) ratings

	Mean (SD) (N=57)		**Mean (SD) (N=56)**	
HoNOSCA Items	**T1**	**T2**	**T1**	**T2**
1. Disruptive, aggressive problem	.6508 (1.179)	.3607 (.8762)	1.562 (1.343)	1.035 (1.051)
2. Overactive, attention difficulty	.8548 (1.157)	.3000 (.6714)	3.015 (.9510)	2.473 (1.036)
3. Self-injury	1.650 (1.438)	.4833 (1.016)	1.906 (1.455)	1.000 (1.239)
4. Alcohol, drug misuse	.6508 (1.233)	.1525 (.5512)	.7813 (1.253)	.1930 (.6391)
5. Scholastic or language skills problem	.7143 (1.312)	.2034 (.7138)	3.142 (1.161)	2.298 (1.487)
6. Physical illness, disability	.2857 (.6822)	.1333 (.4682)	1.109 (1.404)	1.404 (1.355)
7. Hallucinations, delusions	.3175 (.7792)	.1500 (.5150)	1.109 (1.286)	.8070 (1.042)
8. Psychosomatic problem	.2698 (.6527)	.0833 (.4235)	1.281 (1.374)	.7719 (1.085)
9. Emotional symptoms	2.857 (1.148)	1.525 (1.119)	3.093 (1.256)	2.421 (1.164)
10. Peer relationship problem	1.661 (1.503)	.6610 (1.060)	2.062 (1.467)	1.375 (1.315)
11. Self-care, independence problem	.6129 (.9810)	.2167 (.5237)	2.203 (1.335)	1.421 (1.294)
12. Family problem	1.381 (1.517)	.9500 (1.080)	1.625 (1.315)	1.696 (1.292)
13. Poor school attendance	2.523 (1.564)	1.915 (1.643)	2.968 (1.379)	2.142 (1.645)
HoNOSCA total score (sum scale1-13)	14.4 (6.6)	7.1 (5.2)	25.6 (7.9)	18.44 (8.0)

Regression analyses and analysis of variance (ANOVA) were performed to assess whether independent variables related to HoNOSCA change scores. These included age, gender, first admission, LOS, principal diagnosis and comorbidity. No statistically significant correlations were observed. There was a trend for comorbidity and lower scores on discharge, although not statistically significant.

5.4 Discussion

This study provides an important profile of adolescents admitted to a private inpatient unit in Melbourne. Age, gender and primary diagnosis findings were similar to previous adolescent inpatient settings (Hayes et al., 2018). Globally, typical LOS varies considerably from four to 335 days (Hayes et al., 2018). This is important to consider when comparing inpatient units in relation to best outcomes and a unit's average LOS. In the current study, the mean LOS was 28 days, which might be considered longer than most public acute inpatient units in Australia. This is likely explained by the private setting. The inpatient unit focuses on intensive therapy for those admitted on a voluntary basis and perhaps more willing to engage in therapy.

Adolescents rated themselves as functionally worse compared to clinician ratings at T1 and T2. This might occur for reasons related to self-perception and negative self-image. Future research should explore these disparities to try and resolve which rating is most accurate.

The mean clinician-rated HoNOSCA total score at T1 was lower than previous inpatient studies, where values range from 17.13 to 18.5 perhaps also due to the unit being a non-frontline emergency admission setting (Hanssen-Bauer et al., 2011; Mathai & Bourne, 2009). This might suggest that adolescents in the current study were more functionally stable at T1 compared to those attending other inpatient units. This is likely given that the inpatient unit is voluntary. In contrast, adolescent-rated scores reflected previous inpatient studies at T1 (Yuan, 2015). Regardless of the type of inpatient setting, clinical outcomes were positive on several HoNOSCA domains. Whilst adolescents rated themselves as clinically worse than clinicians at T1 and T2, both reported significant improvement from T1 to T2 ($p<0.0001$) overall. This suggests that the symptoms and behaviours leading to admission subsided over the course of the admission thus demonstrating potentially positive effects from the model of care on therapeutic outcomes. However, these results need to be interpreted cautiously as it is difficult to determine whether symptom improvement was directly related to the model of care or an inpatient admission. Nonetheless, there is a need to better understand such model of care and their roles in therapeutic outcomes.

Although adolescents and clinicians rated improvement on several items, there was an agreement between both that *self-injury* and *emotional symptoms* had the largest reductions. This is an important finding as self-harm and emotional symptoms are often leading factors for inpatient admissions, particularly amongst females (Duddu et al., 2016).

5.5 Conclusions

This study, like previous studies found that most adolescents improved in several areas of their symptomatology by the time of discharge. Limitations include sample size, missing data and use of a single outcome measure. Limitations also related to the file review design, which restricts a standardised method of obtaining symptoms or diagnoses. Therefore, findings may not capture the complexity of adolescents admitted or be generalizable to other units. However, this sample represents a similar profile to other inpatient units in previous research and provides further evidence to support understanding different models of care for adolescents. Whilst a single outcome measure was adopted, a strength of this study was that both adolescent and clinician reports were obtained. Further work is needed to evaluate such inpatient services in greater detail to understand the mechanisms by which these inpatient units are effective. Despite many countries needing and establishing such services, limited information exists regarding adolescent inpatient units. This study provides initial results to inform future evaluations.

5.6 Additional quantitative clinical outcomes

Adolescents interviewed during the study were asked to complete outome questionnaires. Due to the the number of adolescents interviewed, there was a small sample for the YSR, LPI, QID-SR and K-10 quantitative measures. This often related to time for completion and adolescents unable to return the measure to the primary researcher. Statistically significant improvements were observed from T1 to T2 on the *internalising symptoms* of the YSR, LPI, QID-SR and K-10. From T2 to T3, there was statistically significant deterioration in symptoms observed in *internalising problems* of

the YSR in addition to the LPI. However, results should be interpreted with caution due to the sample size. Table 5.4 also demonstrates paired t-tests conducted between T1 and T3. No results were found to be statistically significant. The improvement observed from T1 to T2 reflects previous studies conducted in adolescent inpatient settings (Hayes et al., 2018; Lee et al., 2018). This deterioration from T2 to T3 is likely to reflect the process of recovery, which consists of the up and down trajectory. In terms of the deterioration from T2 to T3, there are few studies to compare. Jonathan Green et al. (2007) found that health gains were sustained one year post discharge. According to a recent systematic review, no further studies have examined adolescent inpatient outcomes post-discharge in a decade (Hayes et al., 2018).

The YSR measures group symptoms into three scales: internalizing (anxiety, depressive, withdrawal and somatic), externalising (aggression and delinquency), and total problems. Although the YSR provides an overall global score of behavioural problems, it is considered inappropriate for use in acute psychiatric inpatient settings. The YSR is less sensitive to change in periods shorter than 6 months, as well as the length of the measure being problematic (Haggerty et al., 2013). Higher scores indicated more problems.

Table 5.4: Additional quantitative clinical outcomes										
	Mean (SD)		**Test of differences**		**Mean (SD)**		**Test of differences**		**Mean (SD)**	**Test of differences**
YSR	**T1**	**T2**	***p***	**YSR**	**T2**	**T3**	***p***	**YSR**	**T1**	**T3**	***p***
Internalising (N=15)	35.80 (10.73)	30.06 (11.06)	.007*	Internalising (N=6)	27.00 (10.86)	33.00 (14.14)	.014*	Internalising (N=6)	31.66 (12.16)	33.00 (14.14)	.581
Externalising (N=15)	17.60 (12.97)	16.53 (12.89)	.442	Externalising (N=6)	20.00 (10.89)	20.16 (12.51)	.960	Externalising (N=6)	23.50 (15.51)	20.16 (12.51)	.466
Total problem score (N=15)	105.66 (30.64)	97.80 (32.03)	.055	Total problem score (N=6)	99.16 (34.44)	105.00 (36.46)	.070	Total problem score (N=6)	110.66 (40.79)	105.00 (36.46)	.407
LPI (N=15)	171.60 (54.72)	153.00 (54.70)	.016*	**LP1 (N=6)**	152.16 (57.71)	175.00 (72.38)	.027*	**LP1 (N=6)**	182.83 (71.57)	175.00 (72.38)	.562
QID-SR (N=15)	22.53 (6.88)	14.80 (6.38)	.001**	**QID-SR (N=6)**	10.16 (18.16)	18.16 (8.01)	.131	**QID-SR (N=6)**	21.16 (7.25)	18.16 (8.01)	.451
K-10 (N=15)	34. 46 (6.50)	28.50 (6.60)	.005*	**K-10 (N=6)**	24.33 (5.04)	28.50 (8.54)	.262	**K-10 (N=6)**	32.33 (5.50)	28.50 (8.54)	.177
p<0.05* p<0.001**											

Chapter 6

The unheard voice of the clinician: Perspectives on the key features of an adolescent inpatient model of care

Problem: Little has been reported from clinicians about the operations, interventions and outcomes of inpatient units and how these comprise models of care in such units. The aim of this study was to explore an inpatient model of care in operation at the study site by defining key features of the model from the perspectives of clinicians. Methods: Semi-structured face to face interviews were conducted with ten clinicians working in a private inpatient unit in Melbourne, Australia. Interview data were analysed using thematic analysis. Findings: Analysis resulted in the identification of three thematic features relating to containment, engagement and therapy. These included; (a) an environment conducive to containment, (b) adolescent engagement through shared experiences and (c) dialectical behaviour therapy embedded culture. Conclusions: The findings provide insights into often unheard clinician perspectives on what the key features of an adolescent inpatient model of care are. These features relate to the interventions that are currently offered on the unit and ways of working as informed by philosophies and practices. These findings should be used to improve clinical services and inform research aiming to articulate exemplary adolescent inpatient models of care. Furthermore, the findings provide guidance and practical information to commissioners, clinicians and policy makers implementing models of care.

6.1 Introduction

An increase in the admission rates of adolescents to emergency departments with mental health problems has been documented globally and is also reflected in Australia (Hagell, Coleman, & Brooks, 2013; Hiscock, Neely, Lei, & Freed, 2018; Office for National Statistics, 2011; Sawyer & Patton, 2018; Shanmugavadivel, Sands, & Wood, 2014). Despite attempts to treat adolescents with mental disorders in community settings and an increased focus on earlier intervention, inpatient units remain an important care option in the absence of evidence-based alternatives (K. R. Delaney, 2017). The importance of the inpatient role in mental health care is consistent with the increasing rates of adolescent admissions (Blader, 2011; Hiscock et al., 2018; James, Clacey, Seagroatt, & Goldacre, 2010; Torio, Encinosa, Berdahl, McCormick, & Simpson, 2015).

The primary purpose of inpatient units is for containment of risk and dysfunctional distress responses, and to stabilise symptoms and assist in the development of problem solving skills (Hanssen-Bauer et al., 2011; P. D. McGorry & Mei, 2018; Tharayil et al., 2012). An admission to an inpatient unit is an intense intervention for any adolescent, at a time in their life where they are particularly vulnerable. It is also one of the most critical times for appropriate and early intervention possibly setting the course of lifelong management of disorders. Consequently, there is an urgent need to focus on inpatient unit programmes, their effectiveness and how they relate to therapeutic outcomes, yet surprisingly little research has been conducted (K. R. Delaney, 2017).

6.2 Literature Review

The inpatient environment has been identified as providing refuge, asylum and respite; care and nurturing; safety, stability and containment; and activity and engagement (Casher, 2013). In Casher (2013) exploration of the writings of D.W Winnicott (1987), he identified that the therapeutic features of refuge, safety, stability and engagement contributed to healing relationships with patients. Winnicott emphasised that the patient does not exist in isolation. Instead, there is the *dyad* of patient and psychiatrist, a relation which can be extended to patient and inpatient unit, with all its components and clinicians. Furthermore, the dyad exists within a contextual and environment space that shapes the relationship. Casher (2013) noted that Winnicott's concept of the *"holding environment,"* referring to an infant's dependency on the mother or environment to meet their needs, could be extended to inpatient units, where an individual is admitted in a heightened state of dependency on clinicians and may develop a relation with the environment reminiscent of the Winnicott's concept of "holding" (Casher, 2013). Here, Casher (2013) referred to a study which examined factors that assist in-patient treatment alliance (Johansson & Eklund, 2004). The study found that the dominant components in establishing treatment alliance were support, encouragement by clinicians and programme clarity. Here, adolescents utilise the hospital's holding function as respite from stress before gradual re-entry to the outside world.

Despite the limited research into adolescent inpatient units and the models of care within these, a recent systematic review evaluated the effectiveness of adolescent inpatient units and found that they tend to be effective in the reduction in symptoms

for most adolescents admitted (Hayes et al., 2018). However, few of the included studies described the settings, explored features of the models of care or provided detailed analysis of interventions, therapies or programmes that contributed to the effectiveness of inpatient units.

In a similar review, Indig et al. (2017) examined inpatient care and when it is most effective for adolescents in addition to appropriate models of care for the treatment of adolescents. The authors reported that few studies documented comparable aspects of their model of care, including the various treatment components, to determine the active ingredients for effective treatment. There was also limited descriptions of how care was experienced from the perspectives of adolescents and caregivers (Gavidia-Payne, Littlefield, Hallgren, Jenkins, & Coventry, 2003; Jonathan Green et al., 2007; J. Green et al., 2001; Indig et al., 2017). This has been recognised in other studies, where there have been claims of an increasing number of empirical studies published in psychiatric nursing journals, however, few focus on the perspectives of key stakeholders, such as clinicians, adolescents and caregivers (Zauszniewski, Bekhet, & Haberlein, 2012). These empirical studies have examined intervention studies which evaluated strategies, practices or procedures which promote mental health or prevent mental illness within inpatient contexts. The review authors were unable to identify any studies which examined the key features of an effective model of inpatient care(Indig et al., 2017).

To date, there is limited empirical evidence in relation to the effectiveness of adolescent inpatient units and the underpinning models of care. Of the research which exists, there

are clear and well-documented limitations. The current evidence cannot be readily synthesised due to the diversity across models of care and treatment interventions provided (Hayes et al., 2018; Indig et al., 2017; Zauszniewski et al., 2012). This diversity relates to different intervention models, health care settings, treatment length and intensity as well as staffing profiles. Staffing profiles relate to the ratio of clinician to patient on an inpatient unit. Similarly, Bettmann and Jasperson (2009) reported significant deficits in the literature with few studies assessing specific programmatic features, that is, what interventions were offered during and post stays. Consequently, researchers and health professionals have been urged to re-evaluate current models of care and conduct research to identify the key features of these models (Davidson, Halcomb, Hickman, Phillips, & Graham, 2006; Regan, Curtin, & Vorderer, 2017).

Of the dearth of studies examining adolescent inpatient units, most have employed quantitative methods of inquiry (Hayes et al., 2018; Indig et al., 2017; Lee et al., 2018; Patterson et al., 2015; Rouski, Hodge, & Tatum, 2017; Seckman et al., 2017). Whilst this approach might be appropriate for some effectiveness and outcome studies, there are limitations when attempting to understand a specialised inpatient service. To identify the key features of models of care in terms of operationalisation, interventions, programmes and philosophies, further qualitative studies are required. This is because a qualitative approach can provide an in-depth exploration of how the world manifests and operates, by describing behaviours, attitudes and practices, rather than describing statistical means, modes, t-tests and p-values (Rapport et al., 2018).

Clinicians, as key stakeholders play an important role in informing healthcare decisions, practices and processes (Unertl et al., 2018). Studies of adolescent inpatient units have predominantly sought clinician perspectives to understand new processes and the implementation and/or evaluation of a new service or intervention (Knowles, Hughes, Imran, & Fisher, 2017; Patterson et al., 2015) but few have sought to explore their views on the composition of models of care. Other studies have examined the challenges and impact of working on an adolescent inpatient unit on clinicians (Matthews & Williamson, 2016; Rouski et al., 2017; Sosnowska, 2015). To the researchers' knowledge, no studies have been conducted which describe an adolescent inpatient model of care in operation from the perspectives of clinicians. As with any healthcare initiative, understanding human factors and features of a system, can influence the level of acceptance and ultimately effectiveness of the model of care (Carayon et al., 2014).

This current study fills this gap, by identifying the key features of an inpatient model of care in a contemporary health system from the often unheard perspective of clinicians. This knowledge is important for determining whether these models of care may lead to benefits for adolescents in terms of their experiences of care and future management of disorders. Furthermore, this knowledge may be applicable to adolescent outpatient settings in terms of the identification of programmes, interventions and philosophies of practice. The ultimate goal is to guide operations of current and future inpatient services, as well as assist in the development of future exemplary models of care for adolescents.

This study aimed to describe an inpatient model of care in operation, by defining key features from the perspectives of clinicians. By model of care we mean the fundamental characteristics and components of which the inpatient unit is comprised. This includes defining features of the inpatient setting, which make up the model of care, including organisational structure, admission processes, provision and delivery of all interventions.

6.2.1 Unit's model of care

Participants worked within the current model of care, which has been in place since 2006. In establishing the model of care, a theoretical basis of care was sought on the understanding that inpatient units with a theoretical basis deliver better outcomes. Furthermore, a theoretical basis improves consistency of care, helps formulate management plans and work focus, and provides staff with confidence in their responses. A Dialectical Behaviour Therapy (DBT) model was proposed and presented to nursing and group therapy staff by the Medical Director at several staff meetings on the understanding that the implementation would not proceed unless there was buy-in. The change was supported by regular admitting psychiatrists at their monthly Psychiatrists' Meeting. The model was chosen for its specific delineation of skill sets which allow interventions in situations from a number of entry points. Adolescents with psychiatric morbidity are often compromised in their skill sets and generally are in an intense skill development life phase.

Staff supported the introduction of the model. Two nursing staff left in the ensuing 3 months finding the level of engagement more than suited their work style with staffing

subsequently being stable. Staff were trained slowly with monthly sessions to ensure comfort and confidence with understanding and interventions starting with skill modules. This progressed to work requiring blending of skills such as crisis strategies and problem solving over 10 months. Training sessions for nursing staff and therapy staff were conducted by the Medical Director and continue to be conducted to engage new staff (Rathus, Miller, Linehan, & Miller, 2015). Since 2006, all staff continued to attend sessions allowing training to enhance quality of care by referencing current patients in work examples. Staff tend to apply to work on the inpatient unit because of their appreciation of the model.

DBT was chosen as the foundation theoretical basis which informed all interactions staff to staff, staff to adolescents, staff to parents (Rathus, Miller, et al., 2015; Tebbett-Mock, Saito, McGee, Woloszyn, & Venuti, 2019). The inpatient unit describes itself as DBT informed while including other therapeutic interventions. The specific DBT group therapy sessions are led by the inpatient unit OT who has formalised DBT training (Rathus, Miller, et al., 2015). However, all staff receive training sessions from the Medical Director and work across the same model, using similar language and style. The purpose of the model is to provide a safe environment for adolescents experiencing mental disorders. The group-based programme runs on a two week cycle with session flexibility to suit the current patient cohort. Admission are typically 3-6 weeks as would be beneficial for symptom reduction and the development of management strategies. Adolescents work individually with their psychiatrists and in catch ups each shift with inpatient unit staff and most are in family therapy. Some adolescents have one

admission, others may have several over a two even three year period. Any further work is manageable in outpatient care.

The culture of the inpatient unit is to provide safety, respect, cooperation between adolescents, amongst clinicians, and clinicians to adolescents. It aims to provide therapy, catering for a range of adolescents and tailored to individual needs. The emphasis of the model of care is on personal growth, connectedness, emotional health and overall well-being. The group programmes draw upon evidence-based therapies, such as DBT, Cognitive Behaviour Therapy (CBT), Supportive Psychotherapy, Psycho-education and Expressive Therapy (Walter et al., 2010). The DBT principles cover four modules, which are core mindfulness, distress tolerance, emotional regulation and interpersonal effectiveness. The model of care offers a range of interventions and provides a flexible environment and culture as illustrated in the below figures based on the insider knowledge and document reviews conducted by author (Figures 6.1 and 6.2).

One of the individual interventions includes the 'distress table', which is located directly in front of the nurses' station. The young person can seek out staff support promptly at the distress table when they are experiencing a crisis. The 'Check In' intervention is an individual session each shift between the adolescent and the assigned contact person. These sessions involve discussions around day-to-day activities, thoughts and feelings, risk assessment, skills work and discharge planning. In group-based interventions, 'community meeting' relates to a daily morning group where each adolescent sets a personal and interpersonal goal. These are then discussed in terms of how they plan to achieve them. The group programmes are delivered by both internal and external staff.

Of the participants interviewed, two deliver the majority of group programmes, whilst remaining participants were involved in the community meeting group each morning.

Figures 6.1 and 6.2 are presented from insider knowledge to help with the preliminary description of the model of care. Figure 6.1 includes the range of interventions which occur throughout the day, whilst figure 6.2 exhibits some of the organisational and contextual elements relating to the physical environment, atmosphere, clinician characteristics and inpatient unit content. Both figures were devised from insider knowledge to provide further clarity regarding an inpatient model of care and core components. To explore the value of any inpatient unit, we first need to identify everything it provides. The purpose of Figures 6.1 and 6.2 was to help articulate and conceptualise the current model of care in operation. Such information would be helpful for those planning to develop or improve and inpatient model of care for adolescents.

6.3 Methods

This study of clinician perceptions of an inpatient model of care was a qualitative participatory designed interview study. Open-ended semi structured face to face interviews were conducted with clinicians and self-reflections from the main author as a clinician also employed at this site were included. The main author has been employed as a mental health nurse at the Albert Road Clinic for 5.5 years, working on the adolescent inpatient unit. The study was approved by the Ramsay Healthcare Ethics Committee (protocol number EC00242). Once approval was granted, the study was registered with the University ethics committee. Participation was voluntary.

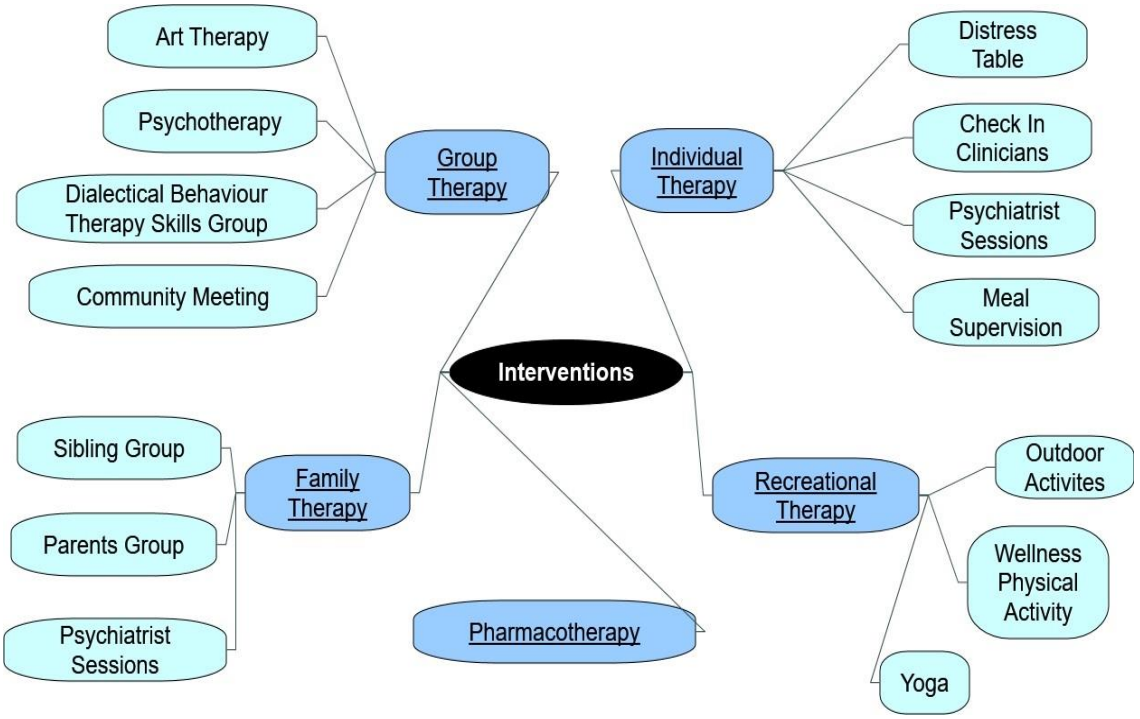

Figure 6.1: Interventions provided as part of the model of care

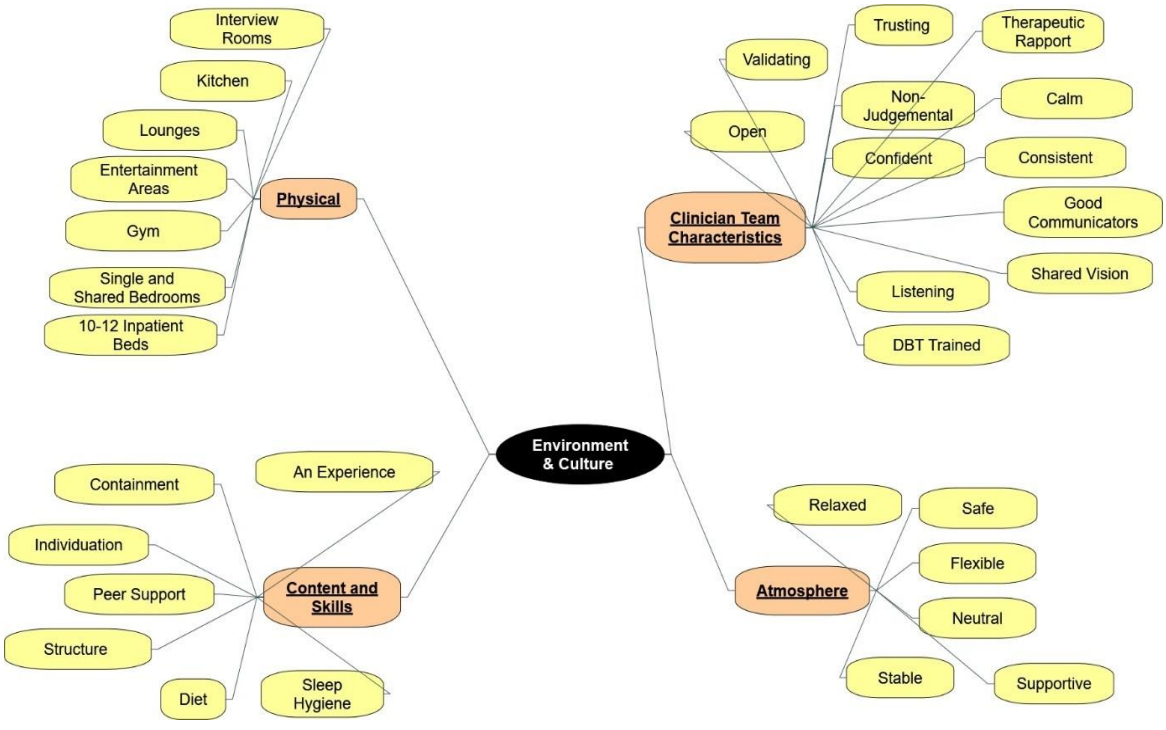

Figure 6.2: Environment and culture of the model of care

6.3.1 Participants and recruitment

This study was conducted at the Albert Road Clinic in Melbourne, Australia. Albert Road Clinic is part of Ramsay Health Care, which provides private healthcare in the United Kingdom, Australia, France, Indonesia and Malaysia. The 10-12 bed adolescent inpatient unit, known as 'Pathways' is part of an 80-bed private hospital setting, which has been operating since 1975. Characteristics of adolescents admitted generally include adolescents 16 years of age, mostly females, Caucasian and with a primary diagnosis of a mood disorder. The typical length of stay is 3-4 weeks.

Clinicians were recruited for interviews as they were immersed in the everyday operations of the model of care, as well as responsible for the delivery of care. During the inpatient unit handover periods, the main author informed clinicians about the study and provided information packets. The documents in the information packets explained to participants their rights and potential risks of being involved in the study. Participants were invited to contact the main author, using the contact details provided in the information packets if interested in participating in an interview.

The staff who worked on the inpatient unit and were invited included Registered Nurses, Endorsed Enrolled Nurses, an Art Therapist, Occupational Therapist (OT) and a Psychologist. All staff ran adolescent groups. The only inclusion criterion was that participants worked on the inpatient unit with adolescents during daylight hours and had at least one year of experience working with adolescents. The criterion of daylight hours was to ensure the clinicians being interviewed had knowledge of the operations of the model of care, as it functioned during the day. The rationale for this was the

therapeutic programmes did not operate at night. Fourteen clinicians were invited to participate in the study (N=14). Ten clinicians agreed to participate. Therefore, a response rate of 71% was obtained for this study. The aim was for a sample size of 12 participants as it was envisaged that shared and repeated themes across participants would become apparent at this stage (Guest et al., 2006). In addition, thematic saturation was observed at this stage.

6.3.2 Data collection

Self-reflections from the main author were used to describe the model of care. This data relied on insider knowledge having worked on the inpatient unit for 5.5 years. Insider knowledge relates to research which is conducted within a social group or organisation of which the researcher is also a member (M. J. Green, 2014). As well as insider knowledge, hospital leaflets and brochures were used to describe and articulate the model of care. Semi-structured face to face interviews were undertaken with 10 participants by the main author between December 2017 and July 2018 at a day and time convenient to participants. All interviews were digitally recorded and conducted in a private room, on a separate level to the inpatient unit at the Albert Road Clinic. Participants were asked to provide an overview of their experiences of working within the inpatient model of care. The mean duration of interviews was 28 minutes (range 16.58-48.25).

6.3.3 Data analysis

As an insider researcher, measures were taken to limit potential bias and increase trustworthiness (Anderson, 2010; M. J. Green, 2014). To minimise potential bias, the

principles of Lincoln and Guba (1985) were adhered to, which ensure the trustworthiness of inquiry findings. This involved the stringent criteria in qualitative research, which were credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985). This involved employing the following techniques; persistent observation, prolonged engagement, triangulation, peer debriefing, compiling an audit trail, member checking and producing a reflexive journal (Agostinho, 2005; Lincoln & Guba, 1985; Sim & Sharp, 1998). We adapted these strategies point by point by selecting those techniques that applied to our study systematically. Furthermore, the main author adopted several other techniques to avoid potential bias for the insider researcher. These included interviewing oneself, stream of consciousness writing and speaking with others regarding the experience to create distance and deconstructing the familiar world (Van Heugten, 2004). A final tool, which is important for all research was also employed. This was self-reflexivity, and particularly relevant for the main author, and the relations between participants (M. J. Green, 2014; Van Den Hoonaard, 2003).

In terms of clinician perspectives, a thematic analysis was conducted to identify patterns and themes of responses present in the interview data. The stages of thematic analysis outlined by Braun and Clarke (2006) were followed, which included: (1) familiarisation of the data set by the researcher, who transcribed and then re-read the transcripts, (2) development of codes that described features of the data relevant to the research questions, (3) grouping of codes to generate initial themes, which produced an initial thematic map, (4) checking and verifying themes across the data set, (5) further analysis and synthesising of the data in order to refine, review and name the themes, and (6)

selection of quotations from the transcripts to illustrate the themes and provide a rich description of the data. The data analysis process took place during the data collection phase to identify thematic saturation.

The preliminary model of care description was derived from the main author's own knowledge of the inpatient unit having worked within, as well as available documents. This was added to by identification of clinician perspectives from interviews. Participant characteristics are not included in this paper to protect confidentiality due to the small number of clinicians working on the inpatient unit. However, all participants had worked on the inpatient unit for more than one year. The majority were permanent part-time clinicians and predominantly from nursing disciplines and allied health. Participants worked on average 4 shifts per week.

6.4 Findings

6.4.1 Clinicians' perspectives of key features of an inpatient model of care

Three overarching themes were identified in the analysis: (a) environment conducive to containment, (b) engagement through shared experiences and (c) theoretically embedded culture. Each of the themes are described in greater detail below, with illustrative quotes provided as exemplars of each theme. Overall, there was considerable consistency amongst participant's perspectives of the most important features of the model of care for adolescents.

6.4.1.1 Environment conducive to containment

Clinicians expressed the view that the inpatient model of care provided an environment conducive to containment with emotional safety and security. This included a sense of safety through their physical environment as well as containment of overwhelming feelings and behaviours, which were managed therapeutically. The DBT informed intervention of validation by staff leading to a capacity to self-validate by the adolescent was identified as a powerful factor. One clinician stated that it was respite or "time away from what was stressing them out, such as school and social groups. The environment in which they weren't coping" (Clinician 3). Another clinician felt the environment offered individuation for the adolescent, as they were no longer distracted by their surroundings. Without these external distractions, the adolescent is provided with a supported space to go "through the pain to be able to find a way they can deal with it (problems), to learn" (Clinician 1).

In the context of containment, structure and collaborative goal setting were also viewed as important. Clinicians focused on the importance of structure and consistency within the environment in terms of setting expectations with adolescents. To establish expectations, consistent messaging was provided in a safe environment by clinicians. Clinicians ensured that adolescents had an organised agenda for the day. This involved an everyday routine, as stated by clinician 2, where adolescents were woken each morning, had a structured timetable, as well as "structure around sleep". Clinician 10 stated, "They're down at breakfast together at eight thirty. The first group is at nine o'clock which is the community meeting…[it] involves telling them what's going on for the day, they set personal goals for the day." Similarly, clinician 7 stated that the

environment provides, “structure in the day...they’re (adolescents) always doing certain things at certain times”.

Clinicians also considered the personal attributes of clinicians in terms of creating consistency and containment within the environment as important. They listed qualities such as being, “positive”, “transparent”, “supportive”, “validating” and “confident” (Clinicians 1,3,5,6,7,8,9,10). Amongst these qualities, transparency appeared to be most important, particularly in terms of consistency for adolescents and for young people to “know where they stand”. Transparency also appeared to be important as the majority discussed being upfront and establishing clear boundaries with adolescents. Clinician 6 stated, “Being really transparent with the adolescents so that they know what the boundaries and guidelines are”. Similarly, transparency was also vital for clinicians as they unanimously shared the same view that “being on the same page” was crucial for containment. Such cohesiveness amongst clinicians helped address commonly noted issues such as competition, contagion or splitting amongst adolescents. Clinician 1 stated, “No matter what staff member the adolescent asks, they (adolescents) will get the same response from each person”.

Clinicians considered consistency within the environment to be an important feature of providing initial containment. One clinician suggested it was integral to engagement, stating, “it can take some containment in order for them (adolescents) to find confidence to participate more” in relation to therapies (Clinician 3). Similarly, another clinician found that initial containment was necessary before any therapeutic engagement could commence. They stated, “If you don't give that containment, you

can't have a trusting relationship. If you don't give the validation, you can't get anywhere because the perception is that you can't help, you're not listening" (Clinician 5). Similar views were expressed by clinician 8, who stated, "I think they get a lot of validation and support. I think that is the biggest thing".

6.4.1.2 Engagement through shared experiences

In addition to clinicians noting how individual attributes and the environment were essential for containment, they also mentioned the importance of shared experiences particularly in the context of many adolescents tending to feel "different" or have issues "fitting in" prior to their inpatient admission (Clinician 1). The same clinician said that as a result of their mental health symptoms, many may have been socially "isolated for a very long time". However, once admitted to the inpatient unit, the adolescent is surrounded by peers with similar mental health problems in a shared space. This is a significant transition from being isolated, as one clinician stated from the adolescents' perspective; feeling alone and "different" to having "all these friends" who "understand where I'm at, feel what I feel, I open up and tell all my problems to" (Clinician 1). This perspective was shared by Clinician 4 who explained that, "dealing with anyone else, anyone from school, parents or whoever, they don't understand, but the adolescents are all in a similar boat. They're in here getting treatment. They lean on each other and accept each other."

According to clinician 10, this was a unique experience, suggesting the model of care was "much bigger than just what the skills they learned in the group, it's having an experience. A lived shared experience". This shared experience allowed adolescents "to

feel really truly vulnerable and know that that is ok" (Clinician 9). This was considered an extremely powerful experience for adolescents and fostered that environment where "they (adolescents) can literally talk about anything, where there is no judgement" (Clinician 3). This was a supported view in other interviews also, "….[the unit] gives that platform of a therapeutic relationship for them to open up and start talking about their problems" (Clinician 5). Whilst shared experiences were considered important, clinician 7 considered potential issues in relation to unhelpful friendships as another factor for consideration, which can be "disruptive". This clinician suggested that when, "they're worried about someone else's problems [they] avoid their own issues". Other relational issues were expressed by clinician 8 when discussing group dynamics, suggesting there can be a "particularly oppositional group that are easily led". The Interpersonal Effectiveness strategies of DBT informed principles facilitate boundary setting and learning in a validating way thus being helpful not withholding.

6.4.1.3 DBT embedded culture

In addition to clinicians facilitating an environment of containment and shared experience, the importance of therapies and programmes were noted. All but one clinician shared the same view that DBT principles were the "most powerful change agent" in the model of care and what it provided adolescents. For clinician 4, the focus was more on engagement and adolescents accepting each other rather than on therapeutic care. Although a range of interventions were provided, the unit culture was embedded in DBT principles, offering validation as well as flexible approach to care. Clinician 10 claimed, "they (adolescents) actually get immersed in a culture that

represents DBT, so there's a lot of validation. A lot of respect… that's incredibly powerful for young people that might not have had that experience before".

The DBT embedded culture was the primary foundation guiding clinicians in how they helped adolescents with problem solving and skill development. First, the basic underlying principles of listening, transparency and validation helped clinicians establish a therapeutic rapport with adolescents. It allowed clinicians to have a "straight forward plan", "guide how we (clinicians) conduct ourselves", as well as "point us in the right direction" (Clinician 2,5). Furthermore, clinicians found that the theoretically embedded culture provided a consistent framework to follow when managing challenging behaviours. Clinician 1 claimed, "DBT was the biggest change… clinicians were educated in a program… to provide the in between bits, how to manage their distress… how to manage their emotions… helping contain that adolescent". The culture allowed clinicians to model the use of skills during their distress.

The DBT embedded culture helped provide, "skills to deal with life and to think about a life worth living outside of here how to deal with everyday things and how to deal with all of their destructive behaviours as well". The model of care culture aimed to teach problem solving in the moment, as well as learning to live life in problem solving mode. Clinicians made several references to the educational quality of the inpatient model of care, which aimed to helped adolescents apply the skills to their outside environment. This was also reinforced in terms of safety, learning to be less reactive and having the skills to manage symptoms or seek help when needed. Clinician 3 spoke about what the model of care sought to achieve, which was, "To get them (adolescents) to start

practicing long term skills to manage better. Giving them the ability to manage themselves in a healthy way as opposed to hoping they figure it out on their own". A similar view was expressed by clinician 1, who stated the model of care was about, "getting them back to a functioning level… so they (adolescents) can go back home, still function, still try and work but with a bit more extra support or a bit more extra knowledge."

6.5 Discussion

This study sought to describe an inpatient model of care in operation, by use of insider knowledge and incorporating the unheard voices of clinicians. Similarly to Winnicott's *holding environment* (See box 1) clinicians in this study found that an environment conducive to containment was a pivotal feature of an inpatient model of care. The importance of the inpatient environment has been established in previous studies (Biering & Jensen, 2017; K. R. Delaney, 2006a; Vella, Page, Edwards, & Wand, 2017). In the current study, clinicians focused on 'consistency' and 'transparency' as critical professional attributes. It is likely that these terms related to building trust with adolescents within the inpatient environment to facilitate engagement. It has been globally accepted that adolescents have difficulties with engagement (O'Brien, Fahmy, & Singh, 2009; R. Tindall, Francey, & Hamilton, 2015). By establishing an environment, which is 'reliable', adolescents can know what to expect, and thus feel safe and contained, as a prerequisite to engagement.

Engagement through shared experiences amongst adolescents was identified as a key element of the model of care from this group. Although 'care and nurture' often refers

to support from clinicians, clinicians in this study focused on shared experiences between adolescents. This is an interesting finding, possibly suggesting that clinicians might undervalue their key role on inpatient units or that the model of care is user-driven which is important in the context of growing momentum for peer models of support. The power of peer solidarity and shared experiences have been acknowledged in other adolescent inpatient studies (Biering & Jensen, 2017; Hart, Saunders, & Thomas, 2005). One study found that relationships with peers influenced adolescents' satisfaction with the inpatient experience (Salamone-Violi, Chur-Hansen, & Winefield, 2015). Another recent study confirmed that adolescents place significant value on social connection (Phillips, Lawler Whatson, Wells, Milson, & Hartley, 2018). In the current study, clinicians discussed shared experiences in terms of acceptance of conditions and a prerequisite for engagement. Biering and Jensen (2017) claim that peer support is an unexploited source of healing potential in adolescent inpatient units. This appears to apply to these findings also.

The DBT embedded culture was found to be a key feature of the inpatient model of care according to clinicians. The culture of any organisation is crucial to how it operates and functions (Davis & Cates, 2018; Garcia et al., 2017). Studies of adolescent inpatient units have focused on the importance of culture models in improving quality of care (Hallman, O'Connor, Hasenau, & Brady, 2017; Slemon, Jenkins, & Bungay, 2017; Vella et al., 2017). Regan et al. (2017) reported that in order to create a therapeutic milieu, a philosophy of care needs to be established to guide the culture and structure of the unit. The clinicians in this current study appeared reassured that the culture had a consistent solid theoretical base in DBT. This created a sense of consistency and cohesiveness amongst

clinicians. It also allowed clinicians to feel confident and competent in their work, which can help with containment. This relates to Maslow (1943) hierarchy of needs. Just as adolescents need to feel safe and contained, clinicians have similar needs. The more clinicians had a sense of a structured pathway and model for providing care, they appeared to feel secure and confident in their work, in turn this is helpful for adolescents in creating a safe environment (Hallman et al., 2017).

6.5.1 Limitations

There are limitations which pertain to this study. Qualitative methods are generally employed to explore a specific phenomenon in a specific place and time, with a specific group of people (Leung, 2015). Interviews and transcripts can be open to multiple interpretations. The study did not include the views of adolescents and caregivers. The study specifically aimed to understand clinician's views of the most important features of an inpatient model of care. Therefore, the inclusion of adolescents and caregiver was not considered for this study. Semi-structured interviews were purposeful in nature, and therefore interviews were conducted with an informed and knowledgeable population (Dicicco-Bloom & Crabtree, 2006). Whilst the findings might not be generalizable across all adolescent inpatient units, views reported here may translate to clinicians based in other inpatient settings. All interviews were conducted on site. Whilst this enabled attendance, it might have constrained participants' honesty regarding their views of the inpatient model of care. Furthermore, considering the lead author was also a clinician on the inpatient unit, this might have impacted participants' honesty of data collected, despite consideration of minimising same.

6.5.2 Future implications

The findings identified suggest a need for further research on adolescent inpatient models of care and in particular to identify the views of adolescents and carers of such models. This would be of great value as current adolescent inpatient models need to be identified, revised and refined. Models also need to be reviewed and evaluated regularly to ensure that they continue to consist of best evidence practice. A longitudinal exploratory, mixed-methods study, including adolescent and caregiver perspectives would help identify and articulate an exemplary model of inpatient care for adolescents. This longitudinal information is critical for clinicians and managers undertaking clinical and service planning for adolescent inpatient settings. In addition, further research will inform those planning to improve or develop similar inpatient services. This will help strengthen the quality of services and influence their direction with the aim to improve the inpatient experience and therapeutic outcomes for adolescents and their families.

6.6 Conclusion

The purpose of this study was to describe an inpatient model of care in operation, by defining key features from the perspectives of clinicians. The findings demonstrate that an environment conducive to containment is pivotal for an adolescent inpatient model of care. Clinicians also identified engagement through shared experiences and the DBT embedded culture as key features of the model. The findings of this study provide insight into clinicians' perspective of what constitutes an adolescent inpatient model of care, an area with little research. However, further research is warranted on this complex topic to help articulate an exemplary inpatient model of care for adolescents and to identify adolescent experiences of such models.

Chapter 7

Experiences of an adolescent inpatient model of care: adolescent and caregiver perspectives

Problem: Adolescent inpatient units have been studied regarding their effectiveness, yet little is known about the experiences of young people who are admitted and their caregivers. It is important to address this gap to understand adolescent inpatient models of care and therapeutic outcomes to maximise the benefit. Our aim was to explore adolescent and caregivers' experiences of an inpatient model of care and perceived helpfulness.

Methods: A longitudinal prospective qualitative design was utilised. Semi-structured interviews were conducted with 16 adolescents and 12 caregivers at T1 (admission), T2 (discharge) and T3 (six months post discharge). Data were analysed first thematically and then using trajectory analysis. Themes from the three time-points are presented from the combined perspectives of adolescents and caregivers.

Findings: Experiences described followed a recovery narrative consisting of three key phases which included, 'waiting for help' (T1), 'help arrived' (T2) and having 'returned to regular life' (T3). The overarching trajectory theme was a 'winding road to recovery'.

Conclusion: Findings provide insights into the lived experiences from adolescents who have had an inpatient stay and their caregivers of an adolescent specific inpatient model of care. These findings can help conceptualise quality adolescent models of care for young people and their families.

7.1 Introduction

Adolescence is a unique developmental period characterised by numerous biological and psychological changes (Jaworska & MacQueen, 2015). Experiencing mental health difficulties in this period of life has significant repercussions for young people and their families (Ward, 2014). For young people who experience mental ill health, active engagement in biopsychosocial treatment is important for achieving their potential and living fulfilling lives as adults (World Health Organization, 2018a). Effective early intervention can reduce the risk of death by suicide or long-term disability characterised by incomplete education, social isolation and significant symptoms which interfere with daily living and impair overall quality of life experiences and opportunities (Gonzalez, Goplerud, & Shern, 2015; P. McGorry, 2011; Read, Roush, & Downing, 2018). Therefore, adolescence is a crucial time for early intervention and treatment engagement with the aim to assist recovery (Copeland et al., 2015; Mock & Arai, 2011).

Research has slowly progressed from focusing on signs and symptoms alone as measures of clinical recovery (Schreiber, 1996). Recovery can be defined as "a deeply personal, unique process of changing one's attitudes, values, feelings, goals, skills, and or roles" and a "way of living a satisfying, hopeful, and contributing life even with the limitations caused by illness" (Anthony, 1993; Slade et al., 2014). Personal recovery is a subjective experience (Bellack & Drapalski, 2012). According to Slade et al. (2014), there can be overlap between individuals, but there will be many subjective definitions of recovery considering the individual's understanding of his/her own recovery will change over time. Whilst some individuals might follow a 'typical' recovery trajectory, we know that personal recovery is different for

everyone. Furthermore, the recovery process is even more complex when overlaid with the developmental transitions involved in adolescence (Wood et al., 2018).

Many adolescents who seek help are treated and supported in the community (e.g. primary care and services such as Headspace in Australia and Jigsaw in Ireland) and outpatient settings (e.g. individual or group private practice) (K. R. Delaney, 2017). However, some young people experience their challenges as life-threatening and they and their families seek more intensive interventions such as those delivered within an inpatient unit (K. R. Delaney, 2017). Adolescent inpatient units are specialist services providing a therapeutic environment for young people with the most complex mental health issues which families and young people feel cannot be safely resolved in community settings due to perceived risk to self (Duddu et al., 2016). An admission to an inpatient unit is a significant event for young people and their families (Stanton et al., 2017). The experience is likely to be varied based on patient and service factors, such as length of stays and the model of care in operation. Length of stays for young people range widely from four to 335 days including differences in philosophical and practical approaches to models of care.

As will now be described, research into adolescent inpatient units shows that they are effective in terms of symptom stabilisation (Lee et al., 2018). Studies demonstrate that for the majority of young people, their general mental health improves by the time they are discharged from an adolescent inpatient unit. Despite the effectiveness of these inpatient stays, reviews highlight the limitations of current research in terms of insight into what a Model of care is comprised of, additional experiences that contribute to symptom stabilisation and the overall experiences of young people and their caregivers. Studies do not

provide detailed descriptions of the model of care at each inpatient unit. A Model of care should include the fundamental characteristics and components of which the inpatient unit is comprised, so that others may ascertain to what extent this model of care can be applied elsewhere.

7.1.1 Why are inpatient units effective for adolescents?

Adolescent inpatient units are effective for many young people, but little is known about 'how' and 'why' these positive changes occur (Hayes et al., 2018; Lee et al., 2018). Effectiveness related to various areas of functioning, relationships, symptom severity related to anxiety, depression, psychosis and mania, as well as risk factors. Other domains included internalising and externalising problems as well as academic abilities. Most studies have utilised quantitative designs, providing answers to one part of the experience and effect of adolescent inpatient units. However, studies are limited in quantity as well as in detail about the phenomenological experiences of an inpatient model of care and 'how' and 'why' this might be helpful from the views of the adolescents and their families. This research gap suggests that quality inpatient units just happen and that any professional group could operate the therapeutic milieu as well as any other (K.R. Delaney, 2019). Consequently, it is crucial to focus on inpatient unit programmes, their effectiveness and how they relate to therapeutic outcomes (K. R. Delaney, 2017). Furthermore, perspectives on inpatient treatment will help build a quality process and implement a model of care suitable for adolescents with a range of complex mental health disorders.

7.1.2 Are caregivers of young people involved?

Caregivers, be that biological parents or legal guardians of young people play a significant role in supporting adolescents through crisis and recovery (Association for Young People's Health, 2016). However, caregivers of adolescents with mental health problems seem to be particularly unsupported and isolated (Association for Young People's Health, 2016). An admission to an inpatient unit is often a time when the young person's family is already in a state of crisis (Scharer, 2002; Ward, 2014). Whilst the young person is in inpatient care, maintaining family solidarity, as well as other responsibilities is difficult, especially if travel distance is involved to visit their young person (Suiter & Heflinger, 2011; Ward, 2014). Conflict related to treatment might also arise, particularly if a family and young person disagree on what help is needed.

K. R. Delaney (2017) reports that struggles for caregivers of adolescents manifest on many levels, which include the journey to find treatment, building an environment which supports the young person's strengths, and in some instances, visualising a hopeful future. To support adolescents, caregivers need to be involved, particularly as this relates to more positive outcomes for young people (Svavarsdottir, Gisladottir, & Tryggvadottir, 2019). Ideally, in the inpatient setting, help is provided to each group, being caregivers and adolescents. Caregivers often appreciate time to talk with professionals or supportive others apart from their child. Supporting both adolescents and caregivers within a model of care can enhance recovery and reduce likelihood of future admissions. In addition, important protective skills and strategies can be developed during an inpatient stay. Despite the important role caregivers play in supporting adolescents, little research exists which includes them and their perspectives on inpatient model of care and their experiences of support and a child receiving care.

7.1.3 What are the perspectives of caregivers and adolescents?

Whilst qualitative research about the experiences of adolescent inpatient services is growing, few studies include a broad range of perspectives surrounding an adolescent inpatient model of care (Hammarberg, Kirkman, & de Lacey, 2016). One study was found which examined the perspectives of adolescents, caregivers and clinicians in an adolescent inpatient unit (Ward, 2014). Ward (2014) found that relationships were important in recovery for adolescents as well as incorporating a developmentally-informed framework. Elements that were considered crucial to adolescent recovery were the importance of fit between adolescent and hospital environment, supportive management which contains the anxieties of staff and open collaboration between caregivers and staff.

Most inpatient studies concerning caregivers of adolescents with mental health problems are survey-based, measuring adolescent outcomes using standardised measures and at various time-points (Jonathan Green et al., 2007; Greenham & Bisnaire, 2008; Madan, Sharp, Newlin, Vanwoerden, & Fowler, 2016; Mathai & Bourne, 2009; Varol et al., 2010). Some qualitative studies were identified. One mixed-method designed study investigated the psychosocial resources and needs of caregivers (n=44) following their child's inpatient admission (Blizzard, Weiss, Wideman, & Stephan, 2016). The authors found high levels of strain, child symptomatology, and low levels of empowerment and social support. Caregivers identified a need for more knowledge concerning behaviour management strategies, improved caregiver/child relationship and more emotional support (Blizzard et al., 2016). The study concluded with the suggestion that incorporating caregiver's needs may result in more effective and acceptable interventions for families (Blizzard et al., 2016).

In a mixed-methods study of adolescents with eating disorders and hospitalised for medical stabilisation, Bravender, Elkus, and Lange (2017) sought to understand how adolescents (n=23) and caregivers (n=32) perceived the hospitalisation experience. Adolescents considered “massage therapy” to be most helpful and “cell-phone limits” least helpful. Caregivers found “nursing staff” to be most helpful and “seeing other patients in the hospital” least helpful. Protocol components viewed differently by adolescents and caregivers included caregivers more strongly endorsing “staff supervision of meals” and “limits on physical activity”. Findings like this highlight that views between adolescents and caregivers may differ in relation to the specific eating disorder inpatient service provided and potentially other adolescent inpatient services.

To the author’s knowledge, studies have not explicitly investigated adolescent experiences of an adolescent inpatient model of care. In a recent descriptive review, Hayes, Palmer, Hamilton, et al. (2019) examined non-pharmacological therapeutic interventions provided on adolescent inpatient units. There were two of the ten studies identified that included adolescent perspectives. Adolescent perspectives are a neglected voice in programme design, despite their perspectives being most important, as the people receiving these treatments and interventions. We acknowledge that whilst adolescents are entering a phase of autonomy, caregivers continue to have significant involvement with decision-making power, particularly in relation to medical treatment.

It is suggested that by investigating not only adolescents, but adolescent and caregiver perspectives together by attending to commonalities and differences that a more complete

and holistic model of care picture can be created (Ward, 2014). The voices of these important stakeholders are currently absent (Varol et al., 2010). It is anticipated that these perspectives will not always align or be easily harmonised (Ward, 2014). However, incorporating adolescent and caregiver perspectives can guide policy development with the improvement of more helpful models of care for young people and their families. Despite the policy consensus, developing a recovery orientation in mental health services which gives primacy to individual's understanding has proved challenging (Slade et al., 2014).

7.1.4 What are the characteristics of mental health recovery narratives?

Narratives of recovery from mental health issues have played a central role in the establishment of the recovery paradigm within mental health policy and practice (Llewellyn-Beardsley et al., 2019). To develop a conceptual framework characterising mental health recovery narratives, Llewellyn-Beardsley et al. (2019) synthesised published typologies in a systematic review. The authors found 45 studies, 96% of which were adult studies analysing 629 recovery narratives. A conceptual framework was developed, which included nine dimensions. These were, 'genre', 'positioning', 'emotional tone', 'relationship with recovery', 'trajectory', 'use of turning points', 'narrative sequence', 'protagonists' and 'use of metaphor' (see table 7.1).

The 'trajectory' domain consists of the 'upward spiral', 'up and down', 'horizontal' and 'interrupted'. The 'upward spiral' narrative describes a journey with an overall ascending progression toward recovery. These can be narratives of revelation or purposeful suffering, darkness to light towards a better future or overall improvement. Setbacks can occur, which are defined as solvable problems. 'Up and down' relates to a non-linear journey which

challenges the progressive trajectory of moving toward health. These can be experiences as dramatic, “roller coaster” narratives or narratives with “downs as well as ups”. Finally, the ‘horizontal’ domain consists of narratives with significant upturns or downturns, whilst the ‘interrupted’ constitutes a journey interrupted by an unexpected crisis or difficulty. During the latter domain, the individual’s life has returned to its prior state. The ‘narrative sequence’ domain consists of three domains, which are, ‘experience of distress’, ‘turning point’ and ‘experience of recovery’. The study concluded suggesting that recovery narratives are diverse and multidimensional, which may be non-linear and reject coherence. In addition, the authors emphasised the need for more research into the narratives of more diverse populations.

Table 7.1 Characteristics of mental health recovery narratives (Source: Llewellyn-Beardsley et al. 2019)

SUPERORDINATE CATEGORY	NO.	DIMENSION	TYPES			
Form	**1.**	**Genre**	Escape	Enlightenment	Endeavour	Endurance
	2.	**Positioning**	Recovery within the system	Recovery despite the system	Recovery outside of the system	-
	3.	**Emotional tone**	Challenging	Disenfranchised	Reflective	Buoyant
			Shaken	Tragic	-	-
	4.	**Relationship with recovery**	Recovered	Living well	Making progress	Surviving day-to-day
Structure	**5.**	**Trajectory**	Upward spiral	Up and down	Horizontal	Interrupted
	6.	**Use of turning points**	Restorying	Change for the better	Change for the better or worse	-
	7.	**Narrative sequence**	Experience of distress/ trauma	Turning point	Experience of recovery	-
Content	**8.**	**Protagonists**	Personal level	Socio-cultural level	Systemic level	-
	9.	**Use of metaphor**	Distress metaphors	Recovery metaphors	-	-

7.1.5 Where are we now?

There is an urgent need to articulate the inpatient role in facilitating recovery for young people (Hayes, Palmer, Hamilton, et al., 2019; Hayes, Palmer, Simmons, et al., 2019; Hayes et al., 2018). To the authors' knowledge, no study has explored the inpatient model of care experience over time, from the point of admission, discharge and post discharge from the perspectives of adolescents and their caregivers. To understand 'how' and 'why' an inpatient admission might be helpful for young people, it is most appropriate to ask those who experience it directly and for this to inform future inpatient development and design efforts. Furthermore, these time-points are likely to be associated with particular issues for adolescents and their families. Different ideas are likely to come forward over time, with changing priorities. The earlier phase may capture individual's expectations and sense of urgency. At discharge, people have opportunities to reflect on treatment received, as well as new challenges when returning home, perceived changes and gain another perspective on the impact of the episode of care. These perspectives can identify potential gaps in an adolescent inpatient model of care, as well as understand the recovery trajectory for adolescents.

7.2 Methods

Aim: This study aimed to understand how adolescents and caregivers experience an inpatient model of care and perceive the helpfulness of this over time. Ethical approval was given by the local Human Research Ethics Committee (protocol number EC00242) at the site under investigation.

A longitudinal prospective qualitative design was adopted to understand how adolescents and caregivers experience an inpatient model of care and its perceived helpfulness over time. A longitudinal approach was chosen as individual's experiences of health care systems may change over time (Grossoehme & Lipstein, 2016). Interviewing participants at various stages provides a more dynamic picture of their experience rather than single interviews (Murray et al., 2009). However, this approach is rarely used. Longitudinal qualitative interviews offer considerable advantages over typical single 'snapshot' techniques in understanding individuals' changing experiences of illness and healthcare systems (Murray et al., 2009). Longitudinal interview studies can help identify changes in what adolescents and their families want, the best way to carry out interventions, and which outcomes matter most and at what times (Murray et al., 2009). Serial interviews also allow the participant-researcher relationship to develop over time, enabling the generation of more private accounts and descriptions of sensitive topics that are less accessible in a single interview (Murray et al., 2009).

This approach is appropriate when exploring evolving and complex processes such as an inpatient model of care. A prospective understanding of the longitudinal experience can provide insight and direction, an advance on current cross-sectional studies (Grossoehme & Lipstein, 2016). Semi-structured individual interviews were conducted with adolescents and caregivers separately at baseline or admission to the inpatient unit (T1), discharge from the inpatient unit (T2) and six months post discharge (T3).

The first author worked as a mental health nurse on the inpatient unit being studied. Consequently, measures were employed to limit potential bias and increase trustworthiness

(Anderson, 2010; M. J. Green, 2014). The principles of Lincoln and Guba (1985) were adhered to, which ensure the trustworthiness of inquiry findings. This involved adopting the following techniques; persistent observation, triangulation, prolonged engagement, peer debriefing, compiling an audit trail and producing a reflexive journal (Agostinho, 2005; Lincoln & Guba, 1985; Sim & Sharp, 1998). These strategies were adopted by selecting those relevant to our study systematically. Furthermore, the first author adopted several other techniques to avoid potential bias. This included maintaining a reflexive journal and speaking with others regarding the experience to create distance and deconstructing the familiar world (Van Den Hoonaard, 2003). A final tool was employed, which was self-reflexivity, and particularly relevant for the first author employed at the inpatient unit and the relations between participants (M. J. Green, 2014; Van Den Hoonaard, 2003). The first author did not discuss the study with any adolescents or caregivers during clinical working hours. This did not create any issues during the study and the provision of care continued as normal.

7.2.1 Study setting and participants

Participants were recruited from a private adolescent inpatient unit in Melbourne, Australia. The 10-12 bed adolescent inpatient unit known as 'Pathways' is part of a broader private mental health hospital setting, providing voluntary inpatient treatment for adolescents between the ages of 12 and 22 years old. Caregivers and adolescents provide formal consent for an inpatient admission. A detailed description of the setting and model of care has been described in previous work (Hayes, Simmons, et al., 2019b). In brief, this model of care includes a 10-12 bed unit that is staffed with a multidisciplinary team. A range of therapeutic interventions are provided with Dialectical Behaviour Therapy (DBT) as the underlying

theoretical basis of care. Adolescent and caregiver inclusion criteria for the study are presented in Box 1.

Box 1 Eligibility criteria
Adolescent
Inclusion criteria ➢ Aged 12-22 years. ➢ Diagnosed with a mental health disorder. ➢ Receiving inpatient treatment. Exclusion criteria ➢ Inpatient admission less than 24 hours.
Caregiver
Inclusion criteria ➢ Caregiver's child is between 12-22 years. ➢ Caregiver's child has a mental health disorder. ➢ Caregiver's child is receiving inpatient treatment. Exclusion criteria ➢ Caregiver's child has an inpatient admission less than 24 hours.

7.2.2 Recruitment

Recruitment was conducted over an 11-month period, where any adolescent admitted to the unit was invited (alongside their caregiver) by the primary researcher to take part in individual interviews about their experiences (see Figure 7.1). Participation involved an interview at T1, T2 and T3. Information packets were provided to potential participants outlining details of the study as well as any potential risks. Participants were asked to contact the researcher if interested in participating. Formal written consent was obtained from all participants in writing prior to T1. All participants were aware that the primary researcher was conducting the interviews and that participation in the study would not impact their clinical care.

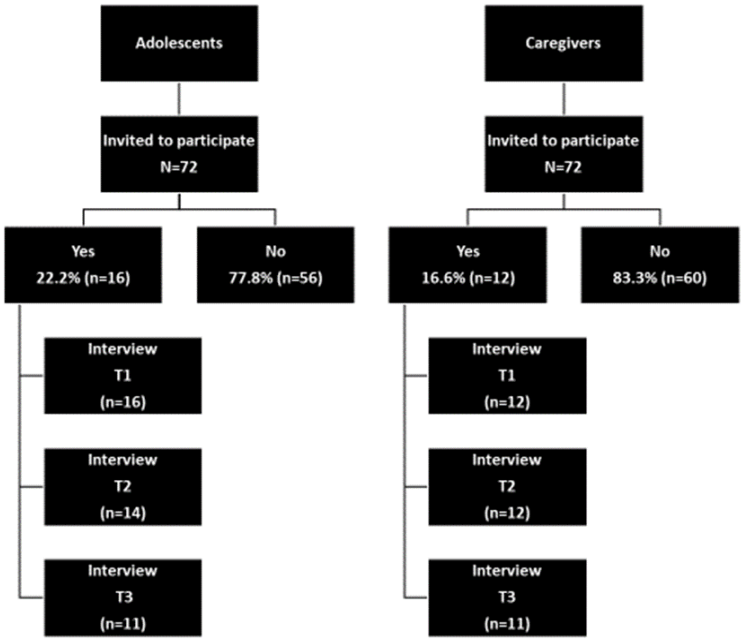

Figure 7.1 Flow diagram of recruitment strategy

7.2.3 Data collection

Consenting adolescents and caregivers were interviewed separately. Those who did not wish to participate did not contact the researcher after being introduced to the study. Face-to-face interviews were conducted in a location separate to the inpatient unit to maintain confidentiality. Semi-structured interview schedules were designed to be flexible, using non-directive questions (see Box 2). The median duration of adolescent interviews at T1 was 49 minutes (range 23-82), 29 minutes at T2 (range 14-52) and 42 minutes at T3 (range 19-76). For caregivers, the median duration at T1 was 51 minutes (range 29-87), 35 minutes at T2 (range 20-64) and 35 minutes (range 20-73) at T3. All interviews were recorded on an audio device and transcribed professionally. All transcripts were checked against audio files for accuracy and any details which identified participants were removed. Transcripts were stored in a password protected database and coded using NVivo V.10 (qualitative data management software) (QSR International Pty Ltd, 2012).

Box 2 Semi-structured interview schedule for adolescents and caregivers
• What were the precipitating factors leading to the inpatient admission? • What are your expectations of the inpatient model of care? • How was your experience of the inpatient model of care?

7.2.4 Data analysis

The longitudinal interview data from adolescents and caregivers were analysed in two ways. First, data were explored thematically, i.e across participants at the one time point such as T1 to understand the experiences of the model of care and interactions with different model of care elements, as well as areas for improvement. The same process was then completed for T2 and T3. Thematic analysis enabled the exploration of data as a first step preliminary analytical tool.

Second, data were analysed longitudinally case by case to understand themes that held over time and those that shifted. Trajectory analysis focuses on changes over time and is recommended to understand healthcare processes (Grossoehme & Lipstein, 2016). As suggested by Grossoehme and Lipstein (2016), time-ordered, sequential matrices were used to preserve the 'chronological flow' and permit understanding of what led to what (Miles & Huberman, 1994). Codes were identified from the interviews, clustered and formulated into themes. The thematically clustered data were organised within matrices, with one matrix per unit of analysis, such as the adolescents, caregivers, adolescents and caregivers or other grouping. The first set of matrices were organised with themes along the Y-axis and time along the X-axis (see table 7.2 for example taken from adolescent and caregiver interviews). Once the coding had been completed, longitudinal analysis began. This step focused on how the data did or did not change over time. To organise the findings, another matrix was required

(see table 7.3 for examples taken from adolescent and caregiver interviews). The Y-axis was organised by themes whilst the X-axis was organised according to the primary units of analysis. Data analysis was conducted from the second matrix in which the codes were focused on time.

Table 7.2: Sample matrix

Adolescent			
Themes	**T 1**	**T 2**	**T 3**
Theme A (example: acceptance)	Lots of worries about not being accepted by their family.	Feeling worried that other adolescents won't accept them.	Less worry about acceptance from family and friends. *Less worry about being accepted.*
Caregiver			
Themes	**T 1**	**T 2**	**T 3**
Theme A (example: family stress)	Lots of stress in terms of family functioning.	Feeling stressed about inpatient unit friendships.	Less stress about family functioning. *Less stress since child is improving.*

Table 7.3: Sample longitudinal analysis matrix

Adolescent	
Themes	**Adolescent 1**
Theme A (example: change in acceptance over time)	Change from worried about acceptance within the family to acceptance by peers. *Moved towards acceptance after admission.*
Caregiver	
Theme A (example: change in family stress over time)	Change from family stress to stress about inpatient friendships. *Moved toward less stress after treatment started.*

Although the first author undertook the primary coding and analysis, the analysis process was discussed and justified with supervisors at regular meetings. Furthermore, a smaller subsample was double coded during the initial stages of the thematic analysis. This did not occur during the trajectory analysis, as this would be too difficult and likely interfere with the analysis process. The data analysis process adhered to the quality criteria described by Lincoln and Guba (1985) to ensure rigour and trustworthiness of the study in terms of credibility,

transferability, dependability and confirmability. Whilst member checking was not adopted, the first author regularly summarised key themes from each interview and clarified these with participants throughout each interview to minimise risk of misinterpretation. Finally, in terms of reporting, the Consolidated Criteria for Reporting Qualitative Research (COREQ) was utilised (Tong, Sainsbury, & Craig, 2007). COREQ is a 32-item checklist for interviews and can help researchers make transparent important aspects of the study in terms of research team, study methods, context of study, findings, analysis and interpretations (Tong et al., 2007).

7.3 Findings

7.3.1 Sample characteristics

There were 95 adolescents admitted to the inpatient unit between the 22nd May 2017 and 3rd April 2018. Of these, 23 (24%) were readmissions from the same period of time. The repeat admissions were excluded from analysis, leaving a total of 72 adolescents for the period in question. Adolescents who had a previous admission were still invited to do the interview but were not counted twice in the overall numbers to avoid duplication of cases. Characteristics of the entire admitted sample (N=72) are presented in table 7.4 as well as the subgroup of adolescents interviewed (N=16).

For the total sample (N=72), ages ranged from 13 years to 21 (mean 16.2, SD= 1.6). Fifty-nine were female (81.9%) and 13 male (18.1%). In terms of ethnicity, 66 (91.7%) were Caucasian, with the remaining 8.3% (n=6) from other ethnic groups (specific cultural background information was not collected as it would be too identifiable to include). The length of stay varied from one day to 67 days (mean 28.0, SD= 15.8). The majority of adolescents had a primary diagnosis of a mood disorder such as Major Depressive Disorder (n=41/56.9%)

followed by an anxiety disorder such as Generalised Anxiety Disorder (n=18/25%). Diagnostic co-morbidity was present in 75.7% (n=53) of the sample, with all adolescents receiving more than one mental health diagnosis on discharge.

Table 7.4: Characteristics of overall representative sample (N=72) and subset of adolescents interviewed (N=16)

	Characteristics of all adolescents admitted to the unit (N=72)	**Characteristics of adolescents interviewed (N=16)**
Age: Mean years (SD)	16.2 (1.6)	16.8 (1.5)
Gender: (% female)	81.9% (n=59)	87% (n=14)
Length of stay: Mean days (SD)	28.0 (15.8)	35.3 (15.5)
Ethnicity: (% Caucasian)	91.7% (n=66)	93.8% (n=15)
First hospitalisation: (%)	50.7% (n=34) Yes 49.3% (n=33) No	50% (n=8) Yes 50% (n=8) No
Primary diagnosis on discharge	1. Mood disorders 56.9% (n=41) 2. Anxiety disorders 25% (n=18) 3. Psychotic disorders 4.2% (n=3)	1. Mood disorders 43.8% (n=7) 2. Anxiety disorders 37.5% (n=6) 3. Psychotic disorders 12.5% (n=2)
Diagnostic co-morbidity on discharge	75.7% (n=53) Yes 24.3% (n=17) No	68.8% (n=11) Yes 31.3% (n=5) No

The average length of stay was longer in the interview subgroup (n=16) (35.3 days; SD=15.5) in comparison to the overall sample (28.0; SD= 15.8). However, this difference was largely explained by one participant who had a long stay of 67 days and the groups did not vary on any other characteristics. In terms of caregivers, 12 participated at T1, 12 at T2 and 11 at T3. Most caregivers were mothers (91%, n=11) with one remaining father.

7.3.2 Experiences of adolescents and caregivers

To meet the aim of this study, the findings of the trajectory analysis for adolescents and caregivers are presented together to capture their collective experiences of the model of care and perceived helpfulness. Thematic analysis revealed similar patterns of experiences and perceived helpfulness. Where relevant, similarities and differences between the views of adolescents and caregivers are reported. The trajectory of recovery became prominent during the thematic analysis as core themes related to seeking help, getting help and returning to normal life reflected other narrative work in recovery and the 'up and down' trajectory. The findings are organised around the trajectories of recovery and presented as themes from the three time-points to help understand what led to what.

7.3.1 Waiting for help (T1)

At T1, adolescents and caregivers focused on experiences prior to their inpatient admission. This consisted of sharing the story of how the young person was coping prior to the admission and reaching a point where adolescents and caregivers felt they had exhausted all other mental health treatment options. Holding on for the admission revealed a sense of both relief and uncertainty, whilst key expectations related to the model of care being one step in recovery.

7.3.1.1 Getting through the day

At the first interview, adolescents and caregivers focused on how the young person was functioning prior to the inpatient admission. With an accepting tone, one adolescent described a typical day prior to the admission, "wake up around twelve in the afternoon…

wash the dishes… sit up all night, smoking cones or watching movies" (Adolescent 3). Alternatively, other young people continued to attend school and were "coping externally", "yet in the background…really struggling" (Caregivers 1,2). Similarly, one adolescent recalled how she would "force" herself to "exercise and make friendships" but "never enjoy it" (Adolescent 10).

Although the level of functioning for each young person varied, some caregivers sounded particularly exasperated. One caregiver reported how her child, "can't function, maintain a relationship… go to school…she barely gets through the day" (Caregiver 3). Similarly, another caregiver claimed, "there isn't a part of her life which is normal" (Caregiver 7). The same caregiver discussed how her daughter presented in her daily life:

> *"she can go to school…she can present as if there aren't any issues… but she can't do things in the way everyone else is expected to do them. She needs to either be doing it at a different time or on her own".*

For some caregivers, maintaining safety for their child in terms of suicide and self-harm was required at home prior to the inpatient admission. One caregiver described this intense period of time:

> *"It was often quite intense and difficult to be on watch…had to put a safe in the kitchen for knives and things like that…a combo lock that everyone else knows and he doesn't, obviously lock the cupboards. Those little things you know, they're not hard to manage and deal with, but every time you go to unlock it, I guess, it's symbolic of what the circumstances are…heightened vigilance that meant we were on edge"* (Caregiver 5)

Regular life lacked normalcy for many families prior to the admission, the experiences were described as being on-edge and on-watch and this was prominent at T1. For adolescents, there was a focus specifically on their daily mental health struggles, whilst caregivers considered their child's mental health struggles in addition to the family environment, emotional impacts and managing this.

7.3.1.2 Tried everything

Adolescents described reaching a point prior to their admission where they were struggling to manage life to their potential and mental illness. One adolescent reported that the admission occurred, "because I haven't been getting any better", whilst another claimed, "if I keep going like this, I'm going to end up in jail" (Adolescents 8,5). Schoolwork was the focus for others and "all that matters to me" and "if this [admission] helps me do schoolwork, I'm willing to try it" (Adolescent 13). Another adolescent spoke of how her sibling urged her to have an admission stating, "I'm not allowed go [suicide] until I've tried everything [admission]" (Adolescent 4).

Despite strained circumstances at home prior to T1, for many families, the decision to have an inpatient admission was difficult and not "something we do lightly" despite having "tried everything" (Caregiver 2). The decision to have an inpatient admission was poignant for some caregivers, invoking feelings of failure, self-blame and powerlessness. One caregiver questioned, "Am I doing the right thing? Am I a complete failure as a parent?" (Caregiver 11). Another described, "feeling like we are in over our heads as parents" and "looking to the professionals to guide us" (Caregiver 5). Many young people (n=10) indicated that the

decision to have an inpatient admission was mainly led by their parents or mental health professionals. Adolescents did not describe this as a positive or negative experience, adopting a relatively neutral tone. At T1, adolescents and caregivers considered decisions leading to the admission and running out of ideas with the inpatient admission being the final option.

7.3.1.3 Holding on

The experiences of waiting for the inpatient admission were frequently voiced during T1 interviews particularly for families whereby it was their first admission. Although waiting was associated with much tension, for some, the confirmed admission appeared to provide a sense of relief and comfort to many families with a calming influence on their young person's mental health. One adolescent recalled this experience stating, "my mood was still low but I was more rational…then I went to the hospital on the Monday" (Adolescent 16). However, it was the first admission for one young person, who recalled feeling "a bit anxious" about the admission, stating, "you don't really think good things when you say mental hospital" (Adolescent 8). More tension was observed amongst caregivers, as one described "hanging on by our fingernails", whilst waiting eight weeks for an admission (Caregiver 10). For another caregiver, it was described as a "period of limbo":

> *"Just doing circles around the airport waiting to land. He* [adolescent] *was wanting to come in, and while he was in the holding pattern, he stayed really low, but once he had an interview here, then a phone call for a placement the next day, his mood was actually really good those couple of days because he could see that something was going to help him"* (Caregiver 5)

The admission process was quick for one family with "a couple of days' notice" for the admission (Caregiver 7). This created some worry, as to whether her young person had

enough time to prepare for the admission stating: “relieved and apprehensive about telling her…I was worried she would refuse it [admission] because she hadn’t got enough time to prepare herself”. Waiting for the admission was a tense time for many families consisting of both relief, uncertainty and hope for help.

Key expectations

Adolescents and caregivers had key expectations for the model of care. These included obtaining “stability”, “structure” and “skills” to “function” and “cope” in “daily life a bit better” (Caregivers 2,3,6,7,8,9,10,11,12) (Adolescent 3,6,7,8,9,12,14,15,16). There was also an understanding or acceptance that one admission would not “fix” or “cure” everything, such as “my anxiety” or “depression”, but “hopefully this is the first major step in his recovery” (Adolescent 1,5,16) (Caregiver 1,5,9,10). For adolescents, school was a priority. One adolescent wanted “structure” to help with returning to school (Adolescent 9), as others declared their expectations:

“Help me to be able to do work at school, at least at the standard that I used to” (Adolescent 13)
“Obviously not everything to be fixed but feel a bit better so I can keep going to school” (Adolescent 16)

Safety emerged as a key expectation particularly from caregivers. One caregiver hoped that her child, “will see a future for herself…have some hope in life and realise how amazing she is and be able to hear that” (Caregiver 7). Some adolescents felt differently appearing to have no expectations of the inpatient model of care, stating, “To be honest, I'm not planning on staying [on inpatient unit] for very long” (Adolescent 7). Another when asked about their

expectations of the model of care declared, “I have none” (Adolescent 2). At T1, the key expectations of the model of care were for young people to return to their lives and function to the best of their ability, to continue engaging in “normal things…the way normal teenagers do” (Caregiver 10). However, for some young people, they remained ambivalent and uncertain about what they expected. Adolescents seemed understandably inwardly focused and reserved at T1. This might be related to being at the initial stages of an intensive process having just been admitted to hospital for treatment.

7.3.2 Help arrived (T2)

At T2 interview points, adolescents had been admitted to hospital and thus were immersed in the inpatient model of care. Therefore, young people had more to say in terms of the model of care at this point than their caregivers. At this time, caregivers could be considered somewhat outside observers of the model of care. Adolescents and caregivers relayed their experiences of the model of care, particularly how young people adjusted to the environment initially and views of perceived helpfulness. Discharging from the inpatient unit was an uncertain time for many families filled with many worries related to uncertain recovery.

7.3.2.1 A safe environment

Adolescents described the model of care environment as “safe” and “comfortable” (Adolescents 1,2,5,12,14,16). For one young person, the environment helped them feel, “safe…more comfortable being myself”, whilst others claimed, “I could be whatever mood…show it…communicate it more” and be in, “a safe place to express your ideas in a visual way” (Adolescents 5,1,12). However, for some adolescents, settling into the unit took

some time. One adolescent recalled, “it took me about a week to settle in…to actually speak about what was on my mind” (Adolescent 9). Most adolescents appeared to adjust to the inpatient unit environment with ease, much to the surprise of some caregivers:

“Been initially disturbingly surprised but now pleasantly surprised that he was so comfortable and independent when he came in here. I'd expected it to be tougher but I guess it took him away from a lot of things…just like the honeymoon period I guess…whatever he didn't like around home or in his life situation, it was a total break from that and okay, it's not a tropical island but in a sense, it probably was for him” (Caregiver 5)

Although one caregiver acknowledged that the inpatient environment was helpful for her child’s anxiety, the concept that she was “happily settled in a psychiatric unit” was a “struggle”:

“She seems happy, it worries me that, at 16, she's happily settled in a psychiatric unit. I struggle with that. Struggle with how I feel about that every day…I think her anxiety has probably gone from 100 to nothing in here, she's safe. She's got some thinking time, she's happy in here” (Caregiver 4)

Most young people appeared to adjust to the inpatient unit with ease, suggesting that the environment was helpful in making young people feel “comfortable”. For some caregivers, their child’s ability to tolerate the inpatient environment was unexpected, considering their level of functioning prior T1. For other caregivers, although the inpatient environment was a relief by being helpful, there was some mild resentment.

7.3.2.2 Relationships

Relationships with staff played a key role in terms of perceived helpfulness and were valued by many adolescents and caregivers. Staff attitudes and support were comforting to adolescents and provided an opportunity to connect with people who understood what they were going through. As well as being "supportive", "friendly" and "approachable", "they [staff] can relate to you which makes everything better" (Adolescents 5,9). Furthermore, adolescents described feeling confident in staff being "well trained" and able to, "deal with unfortunate situations" (Adolescents 14,8). "Respect" within the inpatient unit was observed by one caregiver reporting, "a respectful tone with the other patients to each other…within the staff of the hospital…respect going both ways" (Caregiver 12). Caregiver 7 stated, "I didn't expect every single staff member to be so amazingly kind and supportive".

Peer influence was important and reflective of adolescents and their developmental stage. Relationships with peers and "being around other people who are also suffering in similar situations" was perceived as helpful (Adolescent 8). Being understood and trust was a key aspect in developing friendships on the unit as one young person claimed, "to find new friends in here…I trust people in here" (Adolescent 11). At times, these peer relationships were difficult for caregivers. One caregiver recalls a week where, her child's "gone through the cycle of not needing us to visit", thus indicating some feelings of rejection (Caregiver 6). The same caregiver acknowledged the importance of "making friends" but worried about the "intensity" of some peer relationships within the model of care.

7.3.2.3 Skill development

Following the inpatient admission, caregivers spoke less of skill development having been apart from their young person during the admission and thus being outside observers. Although adolescents discussed a range of interventions provided within the inpatient model of care, group therapy appeared to be the most powerful for young people. The DBT skills group helped young people find strategies to manage their own distress. When discussing episodes of "crisis" or intense distress during their inpatient admission, many young people described DBT "distress tolerance" skills to manage (Adolescent 1,5,10,16). One adolescent planned to use the DBT skills in the event of experiencing a crisis post discharge:

"I would turn to distress tolerance…doing things that calm myself down because they are the things [skills] *that I know work…like a walk away tactic where you walk away from the situation before it explodes…that is something I can do"* (Adolescent 5).

One adolescent labelled art therapy "empowering" stating, "Yesterday's theme was 'my anxiety lives' and then we'd do a visual representation of what that meant to us…it's quite empowering particularly for someone who has trouble articulating what's wrong and understand it" (Adolescent 12). The psychotherapy group, "it's almost like a one on one because he [therapist] goes around and talks to each person…sometimes he has a theme and then we talk about it" (Adolescent 16). Another adolescent elaborated on one of the psychotherapy group topics:

"The iceberg…the tip is the anxiety and the bottom of it…fear behind the anxieties, all the hidden stuff…and then everyone is different with what they say and what their anxieties are so it would be based on what each person would say" (Adolescent 1)

For some adolescents, a one on one session was more helpful. One adolescent found his psychiatrist sessions most helpful stating, “one on one time is personally better…I feel I can open up more easily” (Adolescent 11). Outside of group therapy hours, clinicians were available to talk to adolescents who sat at the “distress table” located in front of the nurses’ station (Adolescents 4,5,9,10,14). Many young people created a “sensory box” during their admission consisting of sensory items to help manage difficult emotions (Adolescents 1,2,3,4,6,9,16) (Caregivers 2,3,4,7). This was often used in examples caregivers shared of how their child managed distress whilst on leave from the hospital (Caregivers 2,3,4,7). Although there were various perceptions of what interventions were most helpful, young people appeared to obtain a sense of self and confidence in mastering skills to manage their symptoms.

7.3.2.4 Returning to the real world

At T2, there was an acknowledgement that whilst adolescent general health had improved, there was still “a long way to go” on “the road to recovery” (Caregiver 1, Adolescent 3). To assess whether the model of care was helpful, adolescents would have to go “back to the real world” (Caregiver 1). For one young person, “I’ve done the most I can do with this admission and I think that’s the point where you need to go home and put these things [skills] into practice” (Adolescent 12).

The most prominent concern for adolescents and caregivers when discharging was the concept of uncertain recovery and returning to how the family functioned prior to the admission. The inability for the young person to transfer the skills they have learned to their

home environment. One young person feared, “my mood could get worse…it might get better…I don’t know” (Adolescent 16). Other worries related to family dynamics on return from the inpatient unit and whether “my family are ready to have me home yet” (Adolescent 11). Similarly, caregivers were “nervous” stating, “we don't know whether we are going back to the same level of monitoring her safety constantly or not” (Caregiver 6). Discharge was a significant concern for many families, particularly those whereby it was their first admission. Transitioning from an inpatient unit staffed 24/7 to the home environment was worrying and uncertain for many families.

7.3.3 Returned to regular life (T3)

Six months following the inpatient model of care, young people appeared more skilled in managing life and coping with their mental illness. However, there were still many ‘ups and downs’ on the ‘winding road to recovery’.

7.3.3.1 The winding road of recovery

At T3, many young people continued to require inpatient and outpatient support. For some young people, there were setbacks in life disrupting their recovery. Despite these setbacks, many young people spoke of being able to accept and manage their symptoms more skilfully. One adolescent continued to experience anger but was able to “map it out” utilising skills learned. The same young person would, “distract until I’m out of that cycle…journaling and writing it down and why I have been feeling that way” (Adolescent 1). The adolescent’s caregiver claimed, “she's bouncing back…that's the difference… she's still experiencing the low moods but able to reason with herself and then move on and deal with it” (Caregiver 1).

Similarly, adolescent 8 reported to have, “a lot more knowledge and understanding of ways I can help myself”. In terms of everyday life, many young people were better able to manage life at T3 in comparison to T1. One caregiver considered her daughter to have, “an immensely better quality of life” stating, “she has a purpose each day…working towards a future…coping with everyday life…not crying nearly as much…rarely voicing hopelessness” (Caregiver 7).

Whilst the adolescents with previous admissions appeared better able to use skills to manage difficult emotions, others were only beginning to recognise them. One adolescent acknowledged feeling angry, “so that’s a step forward”, however “I haven’t gotten how to verbalise what I’m feeling” (Adolescent 2). According to the young person’s caregiver, “the anger was hiding all the pain that was underneath…now she knows there are issues and there is pain and that she will have to deal with it…but I believe she has more knowledge and skills about it now” (Caregiver 2).

At T3, many adolescents reflected on their inpatient experience and considered events which might have impacted their recovery. These included unhelpful relationships in their life, denial of their mental health issues or trying to fit in with peers. One adolescent reported, “being emotionally manipulated” in a relationship prior and during her admission (Adolescent 3). The adolescent’s caregiver believed this relationship influenced her daughter’s decision to discharge “prematurely” from the inpatient unit. They stated, “she was getting pressure from her boyfriend to get out. So, I think she didn’t have enough reflection time” (Caregiver 3). Another young person claimed she was “in denial” in terms of relationship problems,

suggesting, “it [admission] was all about my parents… I was in denial with those problems” (Adolescent 2).

Some adolescents and caregivers acknowledged that change and recovery needed to come from the young person and until that time happens, “we're all going to just be going in a loop” (Caregiver 10). In agreement, one adolescent claimed, “it took a while to learn that” stating:

*“I remember when I was sixteen, I used to just say when I was in sessions, “Why aren’t you helping me?” Because you want them to do something but then once you realise that you’re the one that has to do it, then you’re like, oh s**t. It’s not a fun thing to realise. It’s hard, but yeah, once you realize that, I feel like you’re on the road to recovery”* (Adolescent 14)

For one family, there was a significant loss of one of their family members which contributed to a change in perspective at T3. This shift in perspective mainly related to value for life, consequently altering the young person’s view on suicide which was significant at T1. The young person discussed her improved relationship with her caregivers in response to their significant loss:

“My relationship with my parents is the strongest it's ever been because first of all, I’ve been making an effort to be a better person…When I'm angry at something I'll try to just swallow it and continue on because I don't want to bring that upon them [parents]…*It sucks that it had to get stronger through a situation like this but we've just been closer as a family”* (Adolescent 5)

The road to recovery for many families included many uncontrolled obstacles. Although not ‘fixed’, many young people were equipped with more coping skills to face the tempestuous journey to recovery.

7.4 Discussion

This study sought to understand how adolescents and caregivers experienced an inpatient model of care as well as perceived helpfulness and this was configured within a trajectory of recovery. Experiences followed a recovery narrative consisting of three key phases which included 'waiting for help' (T1), 'help arrived' (T2) and having 'returned to regular life' (T3). The overarching trajectory theme was 'on a winding road to recovery'. The three time-points reflected the narrative sequence of recovery, which include the 'experience of distress' as adolescents and caregivers wait for the model of care, a 'turning point' when they experience the model of care intervention and the diverse and multidimensional 'experience of recovery' after the model of care.

7.4.1 Waiting for help

In terms of recovery, T1 resembled the 'experience of distress' in the narrative journey as participants waited for help (Llewellyn-Beardsley et al., 2019). Some research has considered the effect of waiting time on health and quality of life outcomes (Tuominen et al., 2009). In a randomized clinical trial, Tuominen et al. (2009) found that those waiting a shorter time for admission had better health-related quality of life outcomes and thus potential to move towards recovery. Although the model of care in the current study was not a crisis unit, there was much distress within the family environment prior to T1 despite all admissions being elective. The significance of family support for young people has been established, as well as how this relates to their journey through treatment and toward recovery (Association for Young People's Health, 2016; Hornberger & Smith, 2011; Svavarsdottir et al., 2019).

Consequently, this period is likely significant in relation to the early experience of the model of care, therapeutic outcomes and recovery trajectories for young people.

Health services are now considering texting interventions as a form of follow up care post discharge (Chen et al., 2019; Reback, Fletcher, Fehrenbacher, & Kisler, 2019; Ross et al., 2017). Reback et al. (2019) aimed to use text messaging to improve linkage, retention and health outcomes for young women along the HIV care continuum. Such services should be considered prior to an inpatient admission to allow families to feel involved in the process, connected to the model of care and less distressed as they wait for help. Although research has established the importance of post-discharge care, the current study suggests the significance of pre-admission care (Gill, 2014; Gregory, Sukhera, & Taylor-Gates, 2017). For adolescents and caregivers, the model of care was viewed as a 'last resort' treatment option. There is evidence to support the effectiveness of adolescent inpatient units, and therefore it is a concern that admissions are viewed in this way (Hayes et al., 2018; Lee et al., 2018). This might relate to stigmatised views of hospital admissions, and thus be a significant barrier to care and recovery (Pellegrini, 2014).

7.4.2 Help arrived

Participants focused on the therapeutic processes of the model of care as a 'turning point' when they were discharging from the inpatient unit (Llewellyn-Beardsley et al., 2019). As indicated in previous research, the inpatient model of care offered an environment conducive to containment where young people described feeling safe and secure (Hayes, Simmons, et al., 2019b). Whilst this was a relief for many caregivers, it invoked mild resentment from some. Ward (2014) also found that for some caregivers, there was the dual experience of

positive gratitude but negative displacement due to the hospital admission and loss of control. The model of care in the current study provides a voluntary parents group to support caregivers during the admission. This can be helpful for those who wish to attend, providing opportunities to express any thoughts, feelings or concerns. The importance of family involvement for adolescent models of care has been recognised (McDougall, Worrall-Davies, Hewson, Richardson, & Cotgrove, 2008; P. McGorry, 2007). Further research should examine the wider impact for families as they are separated from their child when they are in hospital.

Participants considered relationships with peers to be helpful for young people, allowing them feel respected and understood. This has been acknowledged in previous adolescent inpatient studies (Hayes, Simmons, et al., 2019b; Salamone-Violi et al., 2015; Ward, 2014). The power of peer solidarity and shared experiences has been reported in other research (Biering & Jensen, 2017; Hart et al., 2005). Hayes, Simmons, et al. (2019b) found that engagement through shared experiences amongst adolescents was a key element of an adolescent inpatient model of care and has been observed in other specific therapeutic programmes adapted for young people. However, whilst there are positive relationships, negative ones also need to be considered and monitored, for example, an adolescent trusting another and oversharing personal information, which might be distressing for others. Another example might be an adolescent feeling responsible to comfort another rather than alerting a clinician. Whilst these relationships are powerful in terms of the recovery process, they need to be carefully monitored to ensure each adolescent is not becoming distracted from their own recovery journey.

In terms of relationships with clinicians, Jonathan Green et al. (2007) found that positive therapeutic alliance in adolescent inpatient units predicted better therapeutic outcomes for young people. These positive relationships are perhaps an undervalued source of healing potential in adolescent inpatient units (Biering & Jensen, 2017). A recent study found that clinicians did not recognise their relationships with adolescents as a key feature of an adolescent inpatient model of care (Hayes, Simmons, et al., 2019b). It's important that clinicians and adolescents understand their key role in enhancing the model of care experience and therapeutic outcomes. Participant experiences of the relationships with clinicians were positive and might reflect an experienced and cohesive team within the model of care. Hayes, Simmons, et al. (2019b) found that an underlying theoretical basis of care such as DBT was a primary foundation guiding clinicians in how they delivered an adolescent inpatient model of care.

Although adolescents explored a range of model of care therapeutic interventions, group therapy was perceived to be most helpful. This might be related to the peer solidarity and support. Jonathan Green et al. (2007) claims that an admission in itself is part of the overall effectiveness, through a combination of removal from external stressors such as school and/or positive effects of the group milieu. Most of the young people in the current study were diagnosed with mood and anxiety disorders. The DBT literature has predominantly focused on people diagnosed with Borderline Personality Disorder (BPD) (Barnicot & Crawford, 2019; Edel, Raaff, Dimaggio, Buchheim, & Brüne, 2017). However, in the current study many young people valued the DBT skills intervention regardless of their mental health diagnosis. The current inpatient model of care has been described elsewhere and DBT was

chosen as the theoretical basis of care (Hayes, Simmons, et al., 2019b). This was sought for the unit with the understanding that inpatient units with a theoretical basis deliver better outcomes. Research is scarce in relation to other therapy frameworks for adolescent inpatient models of care (Hayes, Simmons, et al., 2019b; Indig et al., 2017). Further research needs to explore therapeutic interventions within adolescent inpatient models of care, their theoretical basis and how they relate to therapeutic outcomes.

At the end of the admission, many adolescents and caregivers expressed fear and uncertainty in the context of being discharged home. This has been observed as a challenge and concern in relation to outcomes in many medical studies (Aislinn et al., 2015; Genis, Camic, & Harvey, 2016). Less has been researched in youth mental health inpatient settings. It's important to consider that adolescent inpatient effectiveness studies measure outcomes at the time of discharge (Hayes, Simmons, et al., 2019a; Hayes et al., 2018). Improving the discharge-home transition for adolescents and caregivers could enhance more positive short and long-term outcomes for young people and their families. Researchers and clinicians alike need to share knowledge in improving the discharge experience for adolescents and their families.

7.4.3 Returned to regular life

Six months following the inpatient admission, young people continued to utilise inpatient and outpatient supports and services. Most adolescents reported being better able to problem solve and manage their mental health symptoms. In a quantitative study, Jonathan Green et al. (2007) found that health gains following an inpatient admission were sustained one year post discharge. Whilst many young people were more in control of managing their symptoms, some were only beginning the process of discovering emotions such as anger and able to

identify and recognise it. In terms of adolescent inpatient models of care, it's important to consider the differences in skill levels between those admitted for their first admission and those who have been admitted several times. Additionally, it's important to include information on participants lost to follow-up in terms of whether they improved or worsened. A recent study explored adolescent experiences from the public mental health system to understand what constitutes "good outcomes" (Kristina, Marius, Helga, Per-Einar, & Christian, 2018). Thematic findings resembled the current study, including: (1) I've discovered and given names to my emotions and (2) I've learned how to cope with challenges in life. The authors claimed that "good outcomes" in youth mental health services should be understood as recovery oriented and sensitive to developmental phases (Kristina et al., 2018). The two previous studies suggest that adolescent health gains can be sustained post-discharge and for adolescents, these gains relate to identifying emotions and learning to cope in life. For some young people, readmission might constitute further development towards recovery.

Although focused on adults, Dixon, Holoshitz, and Nossel (2016) suggests and support the concept of recovery-oriented care, which prioritises autonomy, respect for the person receiving treatment and empowerment. This is a difficult concept in terms of an adolescent inpatient model of care when key consent decisions are made by caregivers. Person-centred care, which includes shared decision-making is a helpful framework to follow in terms of tools to enhance engagement. When participants reflected on the admission, many considered events which might have hindered their ability to engage in the model of care at that time. Further research is warranted in adolescent inpatient settings and ways to enhance engagement. On a practical level, it's important to consider how engaged the young person is in the model of care. Adolescent engagement should be seen as an ongoing process and

therefore not one point of care (R. M. Tindall, Simmons, Allott, & Hamilton, 2018). Adolescent engagement needs to be considered prior to treatment, during treatment and after. Poor engagement can lead to worse clinical outcomes, symptom relapse and rehospitalisation (Dixon et al., 2016).

7.5 Limitations

This study explored one private inpatient unit in Melbourne, Australia. Therefore, findings may not be generalisable to other adolescent inpatient settings. However, the sample characteristics in the current study reflect samples in previous studies. The current study included predominantly Caucasian adolescents and families in advantaged socioeconomic circumstances. In terms of other cultural groups, further research is required to investigate whether these models of care are suitable for people from diverse cultural, educational socioeconomic backgrounds. Whilst the sample size might be considered small, analytical generalisability was sought rather than statistical. The sample size is considered substantial for qualitative research, especially given the longitudinal nature of the data collection (Guest et al., 2006). Another limitation might relate to the low response rate and potential for bias. Adolescents and caregivers were asked to contact the primary researcher if interested in participating in the study. This might have affected the number of people willing to participate in the study. Notwithstanding the above limitations, the present study has many important implications.

7.6 Conclusions

The purpose of this study was to explore adolescents and caregiver's experiences of an inpatient model of care as well as perceived helpfulness. The findings demonstrate that

waiting for the model of care was a difficult period for many young people and their families. Minimising waiting list times is a potential solution, as well as finding ways to appropriately and adequately prepare families for the admission. Model of care features perceived to be helpful included a safe environment, the young person's relationships with clinicians, peer support and skill development. Once participants had returned to regular life, young people and families considered they were more equipped to manage life's challenges. However, there were many uncertainties 'on the winding road to recovery'. Further research is warranted on this complex topic to understand adolescent inpatient models of care, their theoretical basis of care and therapeutic outcomes to maximise the benefit.

Chapter 8

Discussion

8.1 Introduction

This chapter considers the findings in the context of previous research relating to adolescent inpatient models of care. The primary research question to be explored in this study was: *"How can understanding a current adolescent inpatient model of care support systematic work to improve mental health outcomes for young people?".* The study attempted to achieve three specific objectives, which included: 1) describing a current inpatient model of care; 2) exploring the experiences of adolescents, caregivers and clinicians in relation to the model of care; and 3) to evaluate the perceived helpfulness of the model of care from the perspectives of adolescents, caregivers and clinicians.

This chapter comprises of six sections. Section 8.2 includes a comparison with previous research, whilst section 8.3 provides the limitations of the current study. Future research is examined in section 8.4, followed by practical implications of the research in section 8.5. This thesis ends with the conclusion in section 8.6.

8.2 Comparison with previous research

8.2.1 Length of stay and unit focus

The demographic profile of adolescents admitted to the 'Pathways' unit are largely consistent with previous studies of adolescent inpatient units in terms of age, gender, ethnicity and primary diagnosis (Hayes et al., 2018; Lee et al., 2018). However, the average length of stay on the unit was 28 days, which is considerably longer than most public inpatient units

worldwide (Hayes et al., 2018). Therefore, findings need to be interpreted with caution. Inpatient units in Switzerland had a similar length of stay to the 'Pathways' unit at 24.9 days and revealed similar HoNOSCA results in terms of emotional symptoms (Sébastien Urben et al., 2015). These inpatient units in Switzerland focused on creative expression interventions such as family/support therapy, story-telling workshops, music therapy and art. In addition, the inpatient unit had an emotional centred workshop and an educational and cultural focus. However, other inpatient units such as one in Norway had a shorter length of stay of 8.5 days (Hanssen-Bauer et al., 2011). This inpatient unit, like the current study also found greatest HoNOSCA reductions for self-injury and emotional symptoms. For this inpatient unit, the intervention focus was on ward milieu therapy, individual psychotherapy and family therapy. Length of stay has been debated in terms of what can be considered the 'ideal' duration for an inpatient admission (Baeza et al., 2018; Zeshan et al., 2018). Whilst this requires further research, it's apparent that most inpatient units regardless of the length of stay find promising outcomes for young people (Hayes et al., 2018). Inpatient units appear to offer symptom stabilisation for many as well as opportunities for young people to learn new skills.

The current study is one of the first studies demonstrating a unique private setting where all young people are admitted on a voluntary basis. Many of the young people on 'Pathways' had an average stay of four weeks. During their time on the inpatient unit, many symptoms improved significantly (see table 5.2). The 'Pathways' unit focused on intensive therapy, where adolescents were required to attend the full programme. One of the first steps in establishing the 'Pathways' model of care was obtaining a theoretical basis of care to deliver better outcomes. In this unit, DBT was the chosen theoretical framework and foundation for

the model. However, a range of interventions (see figure 6.1) were offered to ensure the model of care was helpful for young people.

Regardless of length of stay, the various interventions which are provided on adolescent inpatient units appear to be integral to how helpful a model of care might be for young people. For instance, therapeutic milieu and its relationship to treatment has been widely endorsed across a variety of settings (Ad-Dab'bagh, Greenfield, Milne-Smith, & Freedman, 2000; Boe, Loras, & Vigdal, 2019; Chemtob & Levy, 2009; K. R. Delaney, 2017). The 'milieu therapy' term is an attractive theoretical packaging of the time patients spend between other specified interventions be that group or indiviual (Y. Smith & Spitzmueller, 2016). Other researchers have examined physical aspects of the inpatient environment. Trzpuc et al. (2016) explored optimal environmental characteristics of inpatient units to enhance therapeutic milieu and treatment outcomes for young people and their families. They found various characteristics such as a unit design to address independence of patients, adequate opportunity for staff to observe patients in open spaces and adequate use of daylight. As demonstrated in the current study, every inpatient unit is unique, possessing their own unit focus. Given this complexity, it continues to be a challenge to identify what can be considered an ideal model of care. 8.2.2 What's helpful about an inpatient model of care?

As previously discussed, little is known about adolescent inpatient models of care and 'how' and 'why' they might be helpful. In the current study, the three most important features of the model of care according to clinicians were; (a) an environment conducive to containment, (b) adolescent engagement through shared experiences and (c) dialectical behaviour therapy embedded culture. Of these three features, adolescent engagement through shared experiences has been recognised in previous inpatient unit studies in the context of peer support (Biering & Jensen, 2017; Hart et al., 2005). Adolescents and caregivers related to this, but in particular through positive therapuetic alliances with staff, in addition to peer support. Positive therapeutic alliances are vital for engaging young people and effective therapy (Thompson, Bender, Lantry, & Flynn, 2007; Ungar, Hadfield, & Ikeda, 2018). Young people in

the current study found group therapy to be especially helpful, which also might be related to peer solidarity and support (Jonathan Green et al., 2007).

Clinicians on the 'Pathways' unit also found a containing environment to be particularly important for a helpful model of care. The significance of the inpatient enviornment has been recognised in previous studies (Biering & Jensen, 2017; K. R. Delaney, 2006a; Vella et al., 2017). Adolescents and caregivers also valued the environment, helping young people feel safe and secure. However, this study demonstrated the difficulty for some caregivers, when young people might have felt safer on the unit as opposed to the home environment. This was also observed by Ward (2014), who described the inpatient unit as, 'the second parent'. Whilst the 'Pathways' unit had family interventions, more family involvement is worthwhile for a helpful model of care. In addition, there is a physical disconnect between caregivers and adolescents during an inpatient admission and thus an inportant sense of loss (Ward, 2014). However, for many caregivers in the current study, the admission to the inpatient environment was welcomed, following much family tension leading up to the admission. Nontheless, an inpatient admission is a significant intervention and thus an important decision for any young person and family to make. Whilst the majority of young people improve, it's important to consider those you don't and perhaps deteriorate further (Hayes et al., 2018; Mathai & Bourne, 2009).

The final helpful feature described by clinicians was a, 'DBT embedded culture'. This feature is particularly specific and potentially new to adolescent inpatient studies. However, this aspect mainly related to the philosophy of care which guided the unit, creating a therapeutic milieu (Regan et al., 2017). The importance of the therapeutic milieu and culture for adolescent inpatient units is widely acknowledged (Davis & Cates, 2018; Garcia et al., 2017).

In the current study, staff felt confident in the primary foundation of the model of care and principles of DBT in helping young people. This translated to adolescents in the current study, who expressed value gained from DBT skills specifically. Research is limited in relation to other therapy frameworks for adolescent inpatient models of care (Hayes, Palmer, Simmons, et al., 2019; Indig et al., 2017). However, research has begun to exlore and embrace Trauma-Informed Care models for young people (Stephanie et al., 2017).

8.2.3 What can be learned over time?

The longitudinal interviews with adolescents and caregivers provided a unique advantage to observe key themes related to the model of care at various timepoints. Waiting for the inpatient admission was stressful for many families. Minimising wait times could potentially limit stress for families and utlimately improve the process for young people prior to their admission (Tuominen et al., 2009). Of particular importance was the fact that the inpatient admission was viewed as a 'last resort', which could be a significant barrier to care. For adolescents and caregivers to have this perception might prevent them for seeking an appropriate intervention. Whilst post-discharge care has gained momentum, there is a clear need for pre-admission care (Gill, 2014; Gregory et al., 2017). At the end of the inpatient admission, adolescents and caregivers feared the prospect of discharge (Aislinn et al., 2015; Genis et al., 2016). Whilst discharge planning is a component of the model of care, further interventions are warranted to support and prepare young people and their families. Six months following their inpatient admission, young people were continuing to manage their mental illness with more ease and control. Whilst they were on the 'winding road to recovery', many considered how engaged they were throughout their model of care experience. This

emphasised the need to regularly consider how engaged young people are during their admission, to ensure positive recovery outcomes for young people.

8.2.4 Improving recovery outcomes for young people

Altough adolescents in the current study rated themselves as clinically worse than clinicians rated them at T1 and T2, both participant groups reported significant improvement from T1 to T2 ($p<0.0001$) overall. Whilst an inpatient admission can appear to be a routine process be that 8.5 or 28 days, an inpatient admission can be extremely valuable, empowering many young people to master skills to learn to manage and cope with their mental illness (Ward, 2014). Ward (2014) found that an adolescent inpatient admission can address underlying recovery principles such as living well despite a mental illness, maintaining hope, meaning and empowerment. Again, its important to consider those who do not benefit from an admission. This group of young people are often challenging to follow-up in certain situations where an aolescent might discharge against medical advice.

For inpatient units with a shorter length of stay, the expecation might be to minimise risk through crisis containment for a few days. However, the reality is that mastering such skills takes time, as adolescents might move through the various stages of change (Kidd, Reed, Weaver, Westneat, & Rayens, 2003). For instance, adolescents might see a psychologist or psychiatrist once or twice a week or month. Intense periods of distress occur at unscheduled times. An inpatient admission is 24-hour observation and offers an opportunity to observe a young person being distressed at various times, offer them support and coach them through this difficult period. This gives young people a sense of mastery over their symptoms and a sense of control over their own life. Utilising a comprehensive narrative synthesis of recovery,

an inpatient admission can offer connectedness, hope and optimism about the future, identity, meaning in life and empowerment (Leamy, Bird, Le Boutillier, Williams, & Slade, 2011).

This study has added some new insights into adolescent inpatient models of care. Recent research has been unable to identify key elements of an effective adolescent inpatient model of care (Indig et al., 2017). This study is one of the first which contributes to this literature gap. The inpatient unit was found to be effective and helpful for many young people. Clinicians identified key features of the model of care perceived to be most helpful. Adolecents and caregivers described their experiences of the model and their views of perceived helpfulness. The study, therefore, paved the way to a further understanding of adolescent inpatient models of care. Whilst there is paucity of academic research on adolescent inpatient units, it is possible to compare the findings of the current study with other relevant adolescent inpatient units. Whilst this study is a unique contribution to research, there were limitations which need to be acknowledged.

8.3 Limitations of the current study

This study did not evaluate the effectiveness of the various components of the model of care. The study utilised questionnaires and semi-structured interviews to collect data, however, there were no inpatient unit observations. This might have restricted the potential to identify additional helpful or unhelpful components of the model of care. This study did not include the perspectives of organisational managers such as nurse unit managers, which might have provided more insight into the overall organisational operations of the model of care. This could be considered useful for those wanting to replicate such a model of care. HoNOSCA was

the main outcome measure for all adolescents admitted to the inpatient unit. Whilst this measure is widely used, it might limit how much we understand about perceived helpfulness for this particular population. For instance, the majority of young people in the current study were diagnosed with a mood disorder. Whilst HoNOSCA has been considered a satisfactory measure, perhaps a questionnaire measuring depressive symptomatology might be more suitable and targetted to their needs (Sébastien Urben et al., 2015; von Wyl, Toggweiler, & Zollinger, 2017). In addition, the sample size could be considered small for the quantitative data.

The adolescent inpatient unit in the current study is a private setting. Therefore, the adolescents might have had more advantaged socioeconomic backgrounds. Subsequently, the profile of adolescents might not be generalisable to other inpatient units. However, the characteristics of the sample were similar to previous inpatient units as described in the global literature. In terms of generalisability, like previous studies, most of the young people were caucasian. Therefore, these inpatient units might not be generalisable to other cultural groups. Finally, the current study conducted interviews with adolescents and caregivers six months post-discharge. This is likely to limit how much we know about perceived helpfulness or unhelpfulness of a model of care as it may take quite some time, perhaps years for these to be realised.

8.4 Future research

This study gives rise to a number of recommendations, which would be useful for future research. These are related to the direct extensions of this research and broader issues to be covered in future work.

8.4.1 Direct extensions of the research

The importance of engaging patients, caregivers and communities in health care policy and practice development is widely acknowledged (World Health Organization, 2015). Patient-centred care has emerged as a primary approach to health care (L. Delaney, 2018). This approach emphasises collaboration in health care between patients and health care professionals (L. Delaney, 2018). M. D. Smith, Saunders, Stuckhardt, and McGinnis (2013) claims that a learning health care system is one in which patients and their families are key drivers of the design and operation of the learning process. In addition, the authors support the view that when patients, their caregivers and the public are active participants in care, health, the experience of care, and the economic and therapeutic outcomes can be substantially improved (Hibbard & Greene, 2013; M. D. Smith et al., 2013). A recommendation of the current study is to encourage more substantial engagement of consumers, carers and clinicians in the development of models of care.

The current study included interviews with adolecents, caregivers and clinicians in an effort to understand an inpatient model of care. Furthermore, longitudinal interviews were conducted with adolescents and caregivers six months post-discharge. Whilst this is an advance on current inpatient studies, further work is required. This study can be used as a starting point for future adolescent inpatient studies seeking to understand a model of care and what the experience of recovery is like for young people following their admission and at further time-points. This might be useful as benefits and barriers of the model of care might not be realised by six months. Additional time can allow adolescents and caregivers to reflect on their experiences. Similarly, future studies might want to examine shorter time frames

than six months, as experiences might be more difficult to recall at this stage. A crucial and logical extension of the current study is a follow-up quantitative study which examines therapeutic outcomes at further timepoints post discharge. This can help establish areas in which adolescents and caregivers perceived to have improved or deteriorated. This could provide more insight into areas of the model which might be working well and areas which might need further improvement or refinement. This study can be utilised at the start of a more thorough conceptualisation of an adolescent inpatient model of care and mental health recovery. Adolescents, caregivers and clinicians can be considered experts by experience with a wealth of knowledge and personal experience of mental illness and the impact of going through an inpatient model of care. Adolescent, caregivers and clinicians need to be considered key players in the organisation of current and future adolescent inpatient services. Cross service comparison work could extend and sharpen this analysis of useful components utilising a case controlled comparison method, from which it may be possible to formulate a conceptually sound MOC for testing in a randomized-controlled trial.

In terms of families, future qualitative research should explore the experiences of the family unit whilst their young person is in hospital. Families play a significant role in therapeutic outcomes for young people (Haine-Schlagel & Walsh, 2015). Families are physically separated from their young person during an inpatient admission, which might ellicit a range of emotions and responses. This is likely significant as it might relate to the young person's overall experience whilst engaging in the model of care. Such a study can help highlight areas of the model of care which need to be enhanced to improve the experience for young people and important connections with their families.

This study included the perspectives of nursing and allied health clinicians. An extension of this study would include unit managers who oversee the overall model of care in terms of organisational processes and procedures. This would be useful for those wanting to develop similar services. Managerial perspectives could provide more insight into the implementation of such models of care and how these might be replicated elsewhere.

The findings from this study provide a potential starting point for more elaborate evaluations of an adolescent inpatient model of care. A future study could include unit observations, which would have the potential to provide a more nuanced understanding of the inpatient model of care in operation. Unit observations could be used to understand processes which facilitate and hinder inpatient experiences for young people. In addition, further research should examine other adolescent inpatient units, using a different research approach, and a larger and more diverse population so that the overall picture of helpful adolescent inpatient models of care could be thoroughly understood. Finally, further research could explore what relationships there are between different diagnoses such as anxiety or depression, inpatient models of care and their recovery trajectories.

8.4.2 Broader issues to be covered in future work

The findings from this study provide a potential starting point for capturing what could be considered a sound adolescent inpatient model of care and 'how' and 'why' it is effective. Further research should include the development and evaluation of a range of tools to support the implementation of such a model into practice. This could include the development of an implementation support guide with reflective practice questions for clinicians. A number of small pilot evaluations may lead to future randomised control trials of

general adolescent inpatient units, their effectiveness and perceived helpfulness. DBT was described as a helpful feature of the inpatient model of care. Other adolescent inpatient units should examine these important theoretical underpinnings, which might shape each unique adolescent inpatient model of care.

8.5 Practical implications of the research

The findings from this study are of significance to the field of adolescent inpatient models of care. It is one of the first studies to explore an adolescent inpatient model of care from the perspectives of adolescents, caregivers and clinicians. In addition, one of the first studies in this area of research utilising longitudinal interviews to understand the model of care. Therefore, these findings are a potential platform to guide the direction of general adolescent inpatient services, supporting the collaboration of adolescents, caregivers and clinicians. Additional implications might apply to youth (up to 25 years) services or early psychosis services, where there is a clear demand for a well-formulated therapy programme and need for a recovery oriented approach based on developmental assumptions. Subsequently, these findings could have a direct impact on positive inpatient outcomes and experiences for young people and their families. It is also envisaged that these findings will prompt reflection on clinical practice and guide the direction of individual and team learning. Finally, this approach will prove beneficial in supporting fidelity to adolescent inpatient service models.

8.6 Conclusion

The final chapter of this thesis has discussed the important contributions of this study. Limitations were also acknowledged. The current study was built upon previous work in the field and readily acknowledges the efforts that preceded it. Evidence for adolescent inpatient

models of care remain limited and poorly understood. The study has responded to it's primary research question and provided significant contributions to knowledge in practical and theoretical aspects. These important contributions can inform the continuing efforts to improve positive outcomes for young people. It is expected that this study will serve as a useful resource in the design and development of adolescent inpatient programs. These detailed findings provide a foundation for planning inpatient care that is valued by clinicians, young people and their families. The findings also provide a useful resource to support further adolescent inpatient service development and implementations. Furthermore, these findings could serve as a precursor to the development of a range of adolescent mental health practice standards applicable to the broader adolescent mental health workforce. The overarching aim of this study was to understand an adolescent inpatient model of care. In light of the narratives explored in the current study, I suggest that the experiences captured are complex. I also acknowledge that what has been captured is still incomplete; that the inpatient model of care experience and recovery remains larger than this study has explicated. Nonetheless, this study provided an opportunity for adolescents, caregivers and clinicians to voice their experiences. I expect further research to be built upon this study. In the meantime, I suggest that the very act of listening to and amplifying the voices of adolescents, caregivers and clinicians has been worthwhile at a time when many stories still go unheard.

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Appendices

Appendix 1: Ethical approval

THE AVENUE HOSPITAL

Australian Hospital Care (The Avenue) Pty Ltd trading as
The Avenue Hospital
ABN 12 072 759 338
40 The Avenue
Windsor VIC 3181
Telephone: (03) 9529 7377
Facsimile: (03) 9529 6815

Date 22 April 2017

To: Professor Malcolm Hopwood

Dear Prof Hopwood,

Trial Number: **220**
Title: **Exploring 'if', 'how' and 'why' a DBT (Dialectical Behaviour Therapy)-oriented intervention influences treatment outcomes for adolescents with mental health problems in Victoria, Australia**

Please find enclosed the final approval for the above trial.

Approval is for 4 years and will expire on **22 April 2021** for the above trial.

It is your responsibility to contact the Coordinator immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes to the protocol, including extension of time or any changes in treatment other than as was stipulated in the proposals.
- Any events which might affect the continuing ethical acceptability the project.
- The project is discontinued before the expected date of completion.

In addition you will be required to report on the progress of your project annually and at the conclusion of the project. Failure to report as required will result in suspension of approval to proceed further with the project. A copy of the reporting tool will be forwarded at the appropriate time.

The Ethics Committee wishes you all the best with this research and looks forward to seeing your results.

The Committee wishes you well with the research and looks forward to your first report. A reminder will be sent prior to the due date.

Should you require any further information or clarification please contact me at any time – BaldwinMonique@ramsayhealth.com.au.

Yours sincerely

Monique Baldwin
HREC Coordinator

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*. The processes used by this HREC to review multi-centre research proposals have been certified by the National Health and Medical Research Council.

THE AVENUE HOSPITAL

Australian Hospital Care (The Avenue) Pty Ltd trading as
The Avenue Hospital
ABN 12 072 759 338
40 The Avenue
Windsor VIC 3181
Telephone: (03) 9529 7377
Facsimile: (03) 9529 6815

22 April 2017

Professor Malcolm Hopwood
Albert Road Clinic
31 Albert Road
Melbourne, VIC, 3004

Dear Prof Hopwood,

HREC Reference number: EC00242
Project title: Exploring 'if', 'how' and 'why' a DBT (Dialectical Behaviour Therapy)-oriented intervention influences treatment outcomes for adolescents with mental health problems in Victoria, Australia

Protocol number: 220

Thank you for submitting the above research project for ethical review. This project was considered by The Avenue Hospital HREC at its meeting held on 21 February 2017 and on 18 April 2017.

I am pleased to advise you that The Avenue Hospital HREC has granted ethical approval of this research project.

The nominated participating site/s in this project is/are:

Albert Road Clinic/Private Psychiatric Hospital

[Note: If additional sites are engaged prior to the commencement of, or during the research project, the Coordinating Principal Investigator is required to notify The Avenue Hospital HREC Notification of withdrawn sites should also be provided to The Avenue Hospital HREC in a timely fashion.]

The approved documents include:

Document	Version	Date
Caregiver Cover letter stage 1	1	5 December 2016
Caregiver Cover letter stage 2	1	5 December 2016
Caregiver Cover letter stage 3	1	5 December 2016
Client Cover letter stage 1	1	5 December 2016
Client Cover letter stage 2	1	5 December 2016

Client Cover letter stage 3	1	5 December 2016
Clinician Cover Letter	1	5 December 2016
Clinician HoNOS Cover letter	1	5 December 2016
Clinician HoNOSCA Cover letter	1	5 December 2016
Caregiver PICF	1	5 December 2016
Caregiver Plain Language	1	5 December 2016
Client PICF	1	5 December 2016
Client Plain Language	1	5 December 2016
Clinician PICF	1	5 December 2016
Clinician Plain Language	1	5 December 2016
Parent PICF	1	5 December 2016
Parent Plain Language	1	5 December 2016
Interview Schedules	1	5 December 2016

Approval of this project from The Avenue Hospital HREC is valid from 22 April 2017 to 22 April 2021 subject to the following conditions being met:

- The Coordinating Principal Investigator will immediately report anything that might warrant review of ethical approval of the project.
- The Coordinating Principal Investigator will notify The Avenue Hospital HREC of any event that requires a modification to the protocol or other project documents and submit any required amendments in accordance with the instructions provided by the HREC. These instructions can be found at: http://www.theavenuehospital.com.au/Our%20Doctors/Human%20Research%20and%20Ethics%20Committee
- The Coordinating Principal Investigator will submit any necessary reports related to the safety of research participants in accordance with The Avenue Hospital HREC policy and procedures. These instructions can be found at: http://www.theavenuehospital.com.au/Our%20Doctors/Human%20Research%20and%20Ethics%20Committee
- The Coordinating Principal Investigator will report to The Avenue Hospital HREC annually in the specified format and notify the HREC when the project is completed at all sites.
- The Coordinating Principal Investigator will notify The Avenue Hospital HREC if the project is discontinued at a participating site before the expected completion date, with reasons provided.
- The Coordinating Principal Investigator will notify The Avenue Hospital HREC of any plan to extend the duration of the project past the approval period listed above and will submit any associated required documentation. Instructions for obtaining an extension of approval can be found at: http://www.theavenuehospital.com.au/Our%20Doctors/Human%20Research%20and%20Ethics%20Committee

- The Coordinating Principal Investigator will notify The Avenue Hospital HREC of his or her inability to continue as Coordinating Principal Investigator including the name of and contact information for a replacement.

A copy of this ethical approval letter must be submitted by all site Principal Investigators to the Research Governance Office or equivalent at each participating institution in a timely manner to enable the institution to authorise the commencement of the project at its site/s.

This letter constitutes ethical approval only. This project cannot proceed at any site until separate research governance authorisation has been obtained from the CEO or Delegate of the institution under whose auspices the research will be conducted at that site.

Should you have any queries about The Avenue Hospital HREC's consideration of your project please contact Evie Kendal. The Avenue Hospital HREC Terms of Reference, Standard Operating Procedures, membership and standard forms are available from BaldwinMonique@ramsayhealth.com.au.

The Avenue Hospital HREC wishes you every success in your research.

Yours faithfully,

Monique Baldwin
HREC Coordinator

For
Wendy Brown
The Avenue Hospital HREC

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*. The processes used by this HREC to review multi-centre research proposals have been certified by the National Health and Medical Research Council.

THE UNIVERSITY OF MELBOURNE
HUMAN RESEARCH ETHICS COMMITTEE

APPLICATION SUMMARY FOR APPROVAL OF HUMAN RESEARCH

THE UNIVERSITY OF MELBOURNE

1. ADMINISTRATION DETAILS

ETHICS ID:	1648391.1		
TITLE:	Exploring 'if', 'how' and 'why' a DBT (Dialectical Behaviour Therapy)oriented intervention influences treatment outcomes for adolescents with mental health problems in Victoria, Australia.		
APPLICATION TYPE:	**Registration**	**RESPONSIBLE RESEARCHER:**	HOPWOOD, PROF MALCOLM JOHN
RESPONSIBLE HEAG:	Melbourne Research Office	**HESC:**	Health Sciences
ADMINISTERING DEPARTMENT:	5540 - Psychiatry	**ADMINISTERING CENTRE:** (if applicable)	

2. PROJECT DETAILS

PROJECT TYPE: Supervised Student Research Project - PhD

RESEARCH INVOLVES: Already has or requires other ethics approvals

BRIEF DESCRIPTION: This project will explore 'if', 'how' and 'why' a voluntary inpatient unit admission (guided by DBT principles) can help or hinder adolescents with mental health symptoms.
This project will be a prospective uncontrolled trial with long term follow-up, using qualitative and quantitative methods.
The project will obtain adolescents' (clients) and their parents' (caregivers) perspectives via semistructured face to face in depth interviews at three different times, which are: (1) within three days of the client being admitted to the inpatient unit, (2) within three days prior to the client leaving the inpatient unit and (3) six months after the client has left the inpatient unit. At each interview, clients will be asked to complete questionnaires on their symptoms. The project will also obtain clinicians' perspectives (via semi-structured face-to-face in-depth interviews) of the adolescent inpatient unit and their views on what makes it effective/ineffective. Unlike clients and caregivers, clinicians will only attend one interview. Interviews will take approximately 30 to 90 minutes. The interview times vary depending on whether the participant needs to complete questionnaires as part of their interview or not. For instance, participants who do not complete questionnaires, may only require 30 minutes. In addition, some participants, depending on their vulnerability might take more time to interview. All interviews will be audio recorded and transcribed verbatim. Clients' diagnoses will be obtained from their medical record. The research site currently uses an outcome measure for adults. The adolescent version will be implemented for the purpose of this study. The researcher aims to recruit every adolescent client and their caregiver/s, who enter the research site. Similarly, the researcher aims to recruit any clinician who is an active member of the adolescent inpatient team. All of these individuals will form the sample. The sample size is estimated to be 90. The clinic admits approximately 87 adolescent clients annually. The researcher anticipates that 50% of these might participate in the study, therefore 43.5. The researcher will interview only one primary caregiver. Estimating 87 caregivers across the year, with an estimated interest rate of 40%, thus a sample of 34.8. Among clinicians, the researcher is estimating 12 interviews.

PROPOSED DURATION OF WHOLE RESEARCH PROJECT: **From:** JUN-2016 **To:** AUG-2019

PROPOSED DATE TO COMMENCE DATA COLLECTION: 08-May-2017

3. PERSON DETAILS

Responsible Researcher

Name	Hopwood, Prof Malcolm	**Department**	5540 - Psychiatry
Person Type	Staff	**Centre**	
Phone Number	Work telephone number not found in HR System	**Email Address**	mhopwood@unimelb.edu.au
Qualifications	Bachelors Degree, University of Melbourne Bachelors Degree, University of Melbourne Doctorate (Research), University of Melbourne Masters (Coursework), Monash University		
Experience & Skills Relevant to the Project			
Additional Training Required			
Ethics Training Already Undertaken			

Co researcher

Name	Simmons, Dr Magenta	**Department**	5070 - Centre For Youth Mental Health
Person Type	Staff	**Centre**	
Phone Number	Work telephone number not found in HR System	**Email Address**	msimmons@unimelb.edu.au
Qualifications	Associate Diploma, Northern Melbourne Institute of TAFE Bachelors Degree, Murdoch University PhD, University of Melbourne		
Experience & Skills Relevant to the Project			
Additional Training Required			
Ethics Training Already Undertaken			

4. ADDITIONAL QUESTIONS

4.1 Location of Research

Location Where Research Will Be Carried Out: External sites within Australia

Category of External Location: Hospitals

4.2 Other Approvals Required (other than ethics clearances)

Approvals Required: Required

Approvals Source Identified: Yes

Approval Required From:

Approval Required From	Approval Status	Date Approval Granted	Special Conditions
The Avenue's Research Ethics Committee	Approved		
Comments			

Comments:

4.3 Other Ethic Clearances/Details of Multicentre Research

Other Clearances Required: Required

Clearances Required From:

HREC	Sites Covered	Clearance Status	Date Clearance Granted	Period of Approval From	Period of Approval To
The Avenue Hospital HREC	Albert Road Clinic	Approved	22-Apr-2017	22-Apr-2017	22-Apr-2021
Special Conditions	No				
Comments	Appointed independent delegate to obtain informed consent of adolescents admitted to the hospital.				

Responsible HREC: The Avenue Hospital HREC

Comments:

5. ATTACHMENTS

PLEASE ENSURE YOU ATTACH A PAPER COPY OF EACH OF THE FOLLOWING ATTACHMENTS:

Category	Description	Attached Via Themis	Hard Copy Only
Additional Module	Approval Cover Letter	Yes	No
Additional Module	Approval Letter	Yes	No
Additional Module	Caregiver Cover Letter Stage 1	Yes	No
Additional Module	Caregiver Cover Letter Stage 2	Yes	No
Additional Module	Caregiver Cover Letter Stage 3	Yes	No
Additional Module	Client Cover Letter Stage 1	Yes	No
Additional Module	Client Cover Letter Stage 2	Yes	No
Additional Module	Client Cover Letter Stage 3	Yes	No
Additional Module	Clinician Cover HoNOS	Yes	No
Additional Module	Clinician Cover HoNOSCA	Yes	No
Additional Module	Clinician Cover Letter	Yes	No
Additional Module	Ethics Committee Review	Yes	No
Additional Module	Information from medical records	Yes	No
Additional Module		Yes	No
Application	Ethics Application	Yes	No
Consent Form	Caregiver PICF	Yes	No
Consent Form	Client PICF	Yes	No
Consent Form	Clinician PICF	Yes	No
Consent Form	Parent PICF	Yes	No
Interview	Interview Schedules	Yes	No
Plain Language Statement	Caregiver Plain Language	Yes	No
Plain Language Statement	Client Plain Language	Yes	No
Plain Language Statement	Clinician Plain Language	Yes	No
Plain Language Statement	Parent Plain Language	Yes	No

6. DECLARATION BY RESEARCHERS

We wish to register this project with the University of Melbourne.

We have provided the University of Melbourne with copies of all relevant information submitted to the approving external Human Research Ethics Committee (HREC) which has primary responsibility and oversight for this research project.

We have also provided details of any special conditions of that ethics approval.

We confirm that the approving ethics committee was properly constituted in accordance with the National Statement on Ethical Conduct in Human Research and is registered with the Australian Health Ethics Committee (AHEC).

We confirm that this project has the support of this School/Centre/Faculty.

We have read the University's current human ethics guidelines, the University's Code of Conduct for Research, the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research and agree to comply with the relevant provisions in these documents.

We understand that by submitting this registration we have reporting responsibilities to the University of Melbourne HREC in addition to the responsibilities we have to the approving HREC.

We the researcher(s) agree:

* To conduct the project in strict accordance with the approved protocol including any relevant laws, regulations and guidelines.
* To provide additional information as requested by the University of Melbourne HREC.
* To provide to the University of Melbourne HREC details of any amendments that were approved by the responsible, external HREC.
* To provide progress reports to the University of Melbourne HREC as requested, including annual and final reports.

* To maintain the confidentiality of all data collected from or about project participants, and maintain security procedures for the protection of privacy.
* To notify the University of Melbourne HREC in writing immediately if any adverse event occurs after the approval of the HREC has been obtained;
* To agree to an audit if requested by the University of Melbourne HREC;
* To only use data and any tissue samples collected for the study for which approval has been given;

All researchers associated with this project must sign:

Name	Signature	Date
Prof Malcolm Hopwood		
Dr Magenta Simmons		

7. DECLARATION BY HUMAN ETHICS ADVISORY GROUP (HEAG)

Date Application Received:

TECHNICAL REVIEW COMPLETED ETHICAL REVIEW COMPLETED

The HEAG has reviewed this application for registration and has noted the approval of this project by an external Human Research Ethics Committee.

The HEAG has noted the methodological/technical and ethical aspects of the proposal, the qualification and experience of the researchers to conduct the research set out in the attached application and to deal with any emergencies and contingencies that may arise. In accordance with Section 5.3.3 of the National Statement on Ethical Conduct in Human Research and the University of Melbourne HREC policy recommends this application for registration.

The HEAG has also considered the role to be undertaken by any student researchers.

OR

The HEAG does not recommend this project for registration with the University of Melbourne.

Comments / conditions:
[Any recommended /suggested changes to this protocol may require additional approval by the original approving HREC].

Name of HEAG Chair	Signature	Date

[Note: If the HEAG Chair is also a principal researcher for this project, the declaration should be signed by another authorised member of the HEAG]

8. DECLARATION BY HEAD OF SCHOOL, FACULTY, CENTRE

Date Application Received:

TECHNICAL REVIEW COMPLETED ETHICAL REVIEW COMPLETED

I have reviewed this application for registration and have noted the approval of this project by an external Human Research Ethics Committee.

The School / Faculty supports this research and I recommend this application for registration with the University of Melbourne.

Name of HEAD	Signature	Date
Everall, Prof Ian		

[Note: If the Head of Department is also a principal researcher for this project, the declaration should be signed by another authorised member of the Department]

WHEN COMPLETE

When this form has been signed it should be attached to one complete set of documents of the original ethics application (including plain language statements, consent forms, copies of surveys, letters of approval etc) and sent to the Office for Research Ethics and Integrity for registration.

THE AVENUE HOSPITAL

Australian Hospital Care (The Avenue) Pty Ltd trading as
The Avenue Hospital
ABN 12 072 759 338
40 The Avenue
Windsor VIC 3181
Telephone: (03) 9529 7377
Facsimile: (03) 9529 6815

12 June 2017

Professor Malcolm Hopwood
Albert Road Clinic
31 Albert Road
Melbourne, VIC, 3004

Dear Prof Hopwood,

HREC Reference number: 220
Project title: Exploring 'if', 'how' and 'why' a DBT (Dialectical Behaviour Therapy)-oriented intervention influences treatment outcomes for adolescents with mental health problems in Victoria, Australia

The amendment to this project submitted on 22 May 2017 was approved by The Avenue HREC on 12 June 2017.

The documents listed below are approved:

Document	Version	Date
Client PICF	2	25 May 2017
Client Plain Language	2	25 May 2017
Demographic Consent	1	25 May 2017
Parent PICF	2	25 May 2017
Parent Plain Language	2	25 May 2017

You must forward a copy of this letter to all Principal Investigators and to your institution.

Please note that all requirements of the original ethical approval for this project still apply.

The Avenue HREC wishes you every continued success in your research.

Yours faithfully,

Monique Baldwin
HREC Coordinator

For
Wendy Brown
The Avenue Hospital HREC

Appendix 2: Declaration for a thesis with publication

Declaration for a thesis with publication

THE UNIVERSITY OF MELBOURNE

PhD and MPhil students may include a primary research publication in their thesis in lieu of a chapter if:

- The student contributed greater than 50% of the content in the publication and is the "primary author", ie. the student was responsible primarily for the planning, execution and preparation of the work for publication
- The student has approval to include the publication in their thesis from their Advisory Committee
- It is a primary publication that reports on original research conducted by the student during their enrolment
- The initial draft of the work was written by the student and any subsequent editing in response to co-authors and editors reviews was performed by the student
- The publication is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in the thesis

Students must submit this form, along with *Co-author authorisation forms* completed by each co-author, when the thesis is submitted to the Thesis Examination System: https://tes.app.unimelb.edu.au/. If you are including multiple publications in your thesis you will need to complete a separate form for each publication. Further information on this policy is available at: gradresearch.unimelb.edu.au/preparing-my-thesis/thesis-with-publication

A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	Evaluating Effectiveness in Adolescent Mental Health Ir
Authors	Hayes, C., Simmons M, Simons C & Hopwood M.
Student's contribution (%)	60%
Journal or book name	International Journal of Mental Health Nursing
Volume/page numbers	27 (2), p.498-513
Status	☐ Accepted and In press ■ Published ☐ In progress
Date accepted/ published	2018

B. STUDENT'S DECLARATION

I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date *(dd/mm/yy)*
Claire Hayes	C. Hayes	05-12-19

C. PRINCIPAL SUPERVISOR'S DECLARATION

I declare that:

- the information above is accurate
- The advisory committee has met and agreed to the inclusion of this publication in the student's thesis
- All of the co-authors of the publication have reviewed the above information and have agreed to its veracity
- 'Co-Author Authorisation' forms for each co-author are attached.

Supervisor's name	Supervisor's signature	Date *(dd/mm/yy)*
Professor Malcolm Hopwood	Malcolm Hopwood	05-12-19

The University of Melbourne
CRICOS Provider Number: 00116K

Last Updated 19 October 2017

Declaration for a thesis with publication

THE UNIVERSITY OF MELBOURNE

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A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	What non-pharmacological therapeutic interventions ar
Authors	Hayes, C., Palmer, V., Hamilton, B., Simons, C. and Hop
Student's contribution (%)	60
Journal or book name	International Journal of Mental Health Nursing
Volume/page numbers	28 (3), p. 671-686
Status	☐ Accepted and In press ■ Published ☐ In progress
Date accepted/ published	2019

B. STUDENT'S DECLARATION

I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date *(dd/mm/yy)*
Claire Hayes	C. Hayes	01/11/2019

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Supervisor's name	Supervisor's signature	Date *(dd/mm/yy)*
Professor Malcolm Hopwood	Malcolm Hopwood	01/11/2019

Declaration for a thesis with publication

THE UNIVERSITY OF MELBOURNE

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A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	Protocol for a prospective, longitudinal mixed methods
Authors	Hayes, C., Simmons, M., Palmer, V., Simons, C. Hamilt
Student's contribution (%)	60
Journal or book name	BMJ Open
Volume/page numbers	doi:10.1136/bmjopen-2018-025098.
Status	☐ Accepted and In press ■ Published ☐ In progress
Date accepted/ published	30-01-2019

B. STUDENT'S DECLARATION

I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date *(dd/mm/yy)*
Claire Hayes	C Hayes	01/11/2019

C. PRINCIPAL SUPERVISOR'S DECLARATION

I declare that:

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- 'Co-Author Authorisation' forms for each co-author are attached.

Supervisor's name	Supervisor's signature	Date *(dd/mm/yy)*
Professor Malcolm Hopwood	Malcolm Hopwood	01/11/2019

Declaration for a thesis with publication

THE UNIVERSITY OF MELBOURNE

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A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	A profile of adolescents admitted to a private inpatient u
Authors	Hayes, C., Simmons, M., Palmer, V., Hamilton, B., Simo
Student's contribution (%)	60
Journal or book name	Australasian Psychiatry.
Volume/page numbers	1-5
Status	☐ Accepted and In press ■ Published ☐ In progress — Date accepted/ published: 2019

B. STUDENT'S DECLARATION

I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date *(dd/mm/yy)*
Claire Hayes	C. Hayes	01/11/2019

C. PRINCIPAL SUPERVISOR'S DECLARATION

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Supervisor's name	Supervisor's signature	Date *(dd/mm/yy)*
Professor Malcolm Hopwood	Malcolm Hopwood	01/11/2019

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A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	The unheard voice of the clinician: perspectives on the	
Authors	Hayes, C., Simmons, M., Palmer, V., Hamilton, B., Simo	
Student's contribution (%)	60	
Journal or book name	Journal of Child and Adolescent Psychiatric Nursing	
Volume/page numbers	32 (3), p.129-138	
Status	☐ Accepted and In press ■ Published ☐ In progress	Date accepted/ published 29-05-2019

B. STUDENT'S DECLARATION

I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date *(dd/mm/yy)*
Claire Hayes	C. Hayes	01/11/2019

C. PRINCIPAL SUPERVISOR'S DECLARATION

I declare that:

- the information above is accurate
- The advisory committee has met and agreed to the inclusion of this publication in the student's thesis
- All of the co-authors of the publication have reviewed the above information and have agreed to its veracity
- 'Co-Author Authorisation' forms for each co-author are attached.

Supervisor's name	Supervisor's signature	Date *(dd/mm/yy)*
Professor Malcolm Hopwood	Malcolm Hopwood	01/11/2019

Declaration for a thesis with publication

THE UNIVERSITY OF MELBOURNE

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A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	Experiences of an adolescent inpatient model of care: a
Authors	Hayes, C., Simmons, M., Palmer, V., Hamilton, B., Simo
Student's contribution (%)	60%
Journal or book name	Journal of Child and Adolescent Psychiatric Nursing
Volume/page numbers	In Review
Status	☐ Accepted and In press ☐ Published ☒ In progress
Date accepted/ published	

B. STUDENT'S DECLARATION

I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date *(dd/mm/yy)*
Claire Hayes	C. Hayes	12-05-19

C. PRINCIPAL SUPERVISOR'S DECLARATION

I declare that:

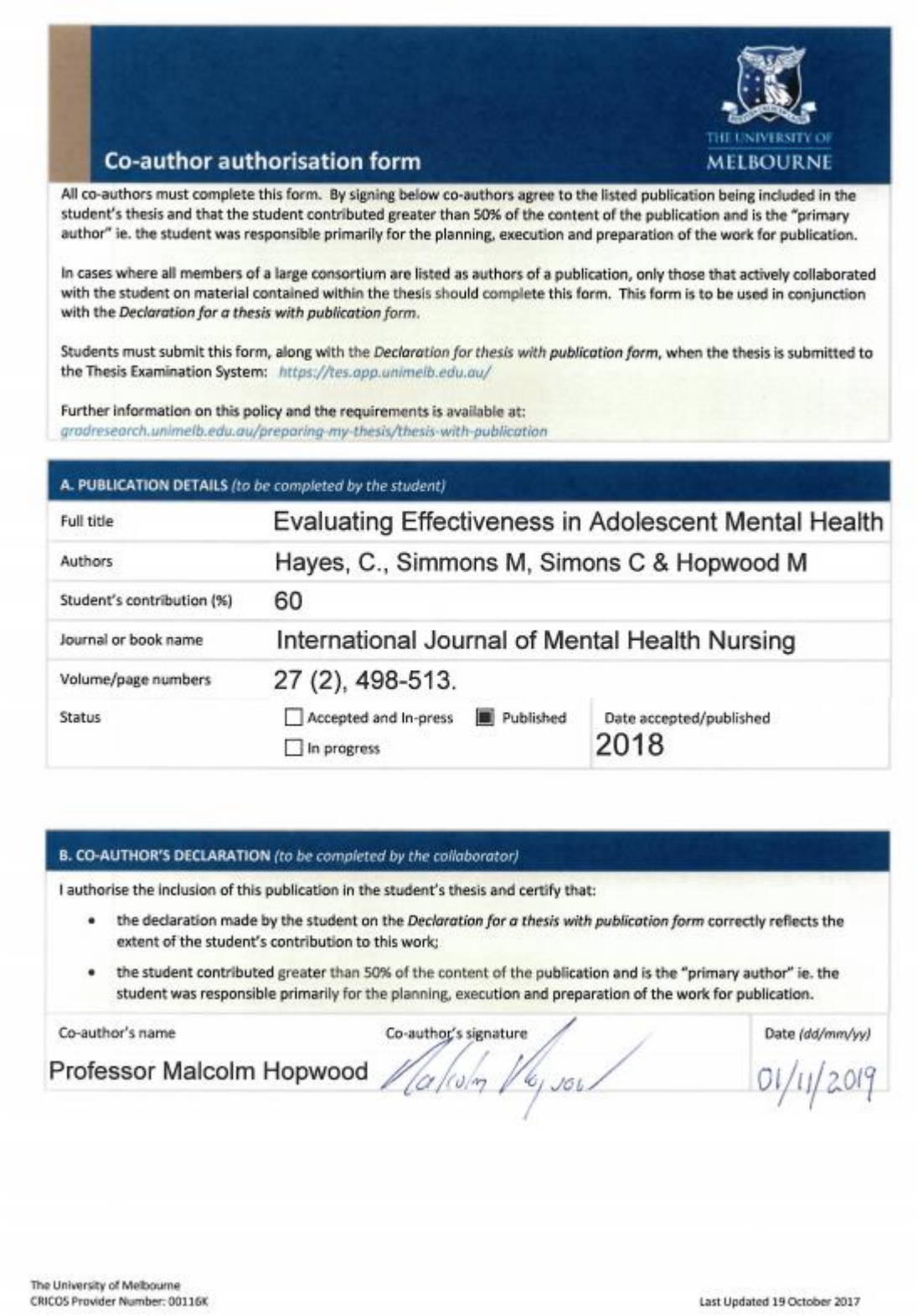
- the information above is accurate
- The advisory committee has met and agreed to the inclusion of this publication in the student's thesis
- All of the co-authors of the publication have reviewed the above information and have agreed to its veracity
- 'Co-Author Authorisation' forms for each co-author are attached.

Supervisor's name	Supervisor's signature	Date *(dd/mm/yy)*
Professor Malcolm Hopwood	Malcolm Hopwood	12-05-19

The University of Melbourne
CRICOS Provider Number: 00116K

Last Updated 19 October 2017

Appendix 3: Co-author authorization forms



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THE UNIVERSITY OF MELBOURNE

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Authors	Hayes, C., Simmons M, Simons C & Hopwood M
Student's contribution (%)	60
Journal or book name	International Journal of Mental Health Nursing
Volume/page numbers	27 (2), 498-513.
Status	☐ Accepted and In-press ■ Published ☐ In progress
Date accepted/published	2018

B. CO-AUTHOR'S DECLARATION *(to be completed by the collaborator)*

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Co-author's name	Co-author's signature	Date *(dd/mm/yy)*
Professor Malcolm Hopwood	Malcolm Hopwood	01/11/2019

The University of Melbourne
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Journal or book name	International Journal of Mental Health Nursing
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Status	☐ Accepted and In-press ■ Published ☐ In progress — Date accepted/published: 2019

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Volume/page numbers	doi:10.1136/bmjopen-2018-025098	
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Full title	The unheard voice of the clinician: perspectives on the
Authors	Hayes, C., Simmons, M., Palmer, V., Hamilton, B., Simo
Student's contribution (%)	60
Journal or book name	Journal of Child and Adolescent Psychiatric Nursing
Volume/page numbers	32 (3), 129-138.
Status	☐ Accepted and In-press ■ Published ☐ In progress
Date accepted/published	29-05-2019

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Journal or book name	Journal of Child and Adolescent Psychiatric Nursing	
Volume/page numbers	In Review	
Status	☐ Accepted and In-press ☐ Published ☒ In progress	Date accepted/published

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Professor Malcolm Hopwood		05-12-19

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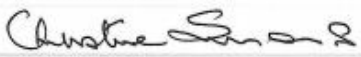
Dr. Christine Simons		05-12-19

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A/Prof Bridget Hamilton	B Hamilton	9/12/19

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A/Prof Bridget Hamilton	B E Hamilton	9/12/19

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A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	The unheard voice of the clinician: perspectives on the
Authors	Hayes, C., Simmons, M., Palmer, V., Hamilton, B., Simoi
Student's contribution (%)	60
Journal or book name	Journal of Child and Adolescent Psychiatric Nursing
Volume/page numbers	32 (3), 129-138.
Status	☐ Accepted and In-press ■ Published ☐ In progress
Date accepted/published	29-05-2019

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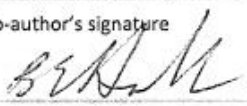
Co-author's name	Co-author's signature	Date *(dd/mm/yy)*
A/Prof Bridget Hamilton		9/12/19

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Authors	Hayes, C., Simmons, M., Palmer, V., Hamilton, B., Simoı	
Student's contribution (%)	60%	
Journal or book name	Journal of Child and Adolescent Psychiatric Nursing.	
Volume/page numbers	In Review	
Status	☐ Accepted and In-press ☐ Published ■ In progress	Date accepted/published

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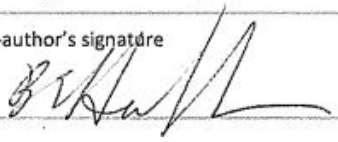
A/Prof Bridget Hamilton		05-12-19

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A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	Evaluating Effectiveness in Adolescent Mental Health	
Authors	Hayes, C., Simmons M, Simons C & Hopwood M	
Student's contribution (%)	60	
Journal or book name	International Journal of Mental Health Nursing	
Volume/page numbers	27 (2), 498-513.	
Status	☐ Accepted and In-press ■ Published ☐ In progress	Date accepted/published 2018

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Co-author's name	Co-author's signature	Date *(dd/mm/yy)*
Dr. Magenta Simmons	Magenta Simmons	05/11/19

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Full title	Protocol for a prospective, longitudinal mixed methods	
Authors	Hayes, C., Simmons, M., Palmer, V., Simons, C. Hamiltc	
Student's contribution (%)	60	
Journal or book name	BMJ Open	
Volume/page numbers	doi:10.1136/bmjopen-2018-025098	
Status	☐ Accepted and In-press ■ Published ☐ In progress	Date accepted/published 30-01-2019

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Dr. Magenta Simmons	Magenta Simmons	05/11/19

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A. PUBLICATION DETAILS *(to be completed by the student)*

Full title	A profile of adolescents admitted to a private inpatient
Authors	Hayes, C., Simmons, M., Palmer, V., Hamilton, B., Simo
Student's contribution (%)	60
Journal or book name	Australasian Psychiatry
Volume/page numbers	1-5
Status	☐ Accepted and In-press ■ Published ☐ In progress
Date accepted/published	2019

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Dr. Magenta Simmons	Magenta Simmons	05/11/19

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Status	☐ Accepted and In-press ■ Published ☐ In progress	Date accepted/published 29-05-2019

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Dr. Magenta Simmons	Magenta Simmons	05/11/19

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Volume/page numbers	In Review		
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Dr. Magenta Simmons		05-12-19

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Full title	What non-pharmacological therapeutic interventions a
Authors	Hayes, C., Palmer, V., Hamilton, B., Simons, C. and Hop
Student's contribution (%)	60
Journal or book name	International Journal of Mental Health Nursing
Volume/page numbers	28 (3), 671-686.
Status	☐ Accepted and In-press ■ Published ☐ In progress — Date accepted/published: 2019

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A/Prof Victoria Palmer		6-11-2019

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Student's contribution (%)	60
Journal or book name	BMJ Open
Volume/page numbers	doi:10.1136/bmjopen-2018-025098
Status	☐ Accepted and In-press ■ Published ☐ In progress
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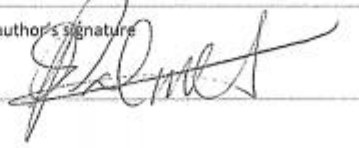
A/Prof Victoria J. Palmer		05-12-19