Evaluating Stepped Care in the Waitemata District
Health Board Mental Health Service: Implementation of the
Stepped Care Model of Healthcare Provision

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Table of Contents

List of tables

List of figures

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except when explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Abstract

This thesis aims to evaluate the effectiveness of the stepped care model of healthcare provision for psychological therapies in the secondary mental healthcare sector in New Zealand over a nine month period. It follows an earlier literature review of stepped care and the collaborative creation of a research design with the Waitemata District Health Board (WDHB) mental health service. The Waitemata District Health Board mental health service aims to increase access to psychological therapies for those seeking help with mental health disorders, without increasing existing resources. Evidence from overseas studies of stepped care in primary care mental health support, suggest that this model shows the potential to increase access to psychological therapies without sacrificing quality of care. The literature review revealed no published research evaluated the implementation of stepped care in the secondary mental healthcare sector or from the perspective of all stakeholders.

The guidelines of programme evaluation were used to evaluate the implementation from the perspective of all stakeholders and to allow barriers to the implementation of stepped care or data collection to be highlighted and addressed over the evaluation period. A research design was collaboratively created with the WDHB mental health service; a three month prospective cohort study followed by a six month experimental case control. Stepped care was introduced in the Rodney Adult District Mental Health Services (RAMHS) and North Shore Team One (NS1) was used as control in both the prospective cohort study and experimental case control.

Several barriers to the use of outcome measurement and the introduction of stepped care were found and discussed. The stepped care model was not introduced in its proposed form by the end of the evaluation and all evaluation strategies were unable to be carried out as proposed Results suggested that the stepped care model increased access to psychological talking therapies without sacrificing quality of care. The use of outcome measurement was found to be a good fit with stepped care guidelines and continued support for this may continue to improve client outcomes, support therapists and enable the WDHB mental health service to target support in appropriate areas.

Introduction

There has been a consistent increase both in diagnosed mental health problems and the subsequent need for support, a trend predicted to continue into the future (Gournay, 2006; WHO, 2005). It is estimated that mental illness makes up half of all health problems in Western Europe, which is equivalent to all the suffering experienced by those with physical illness (Layard, 2006). Within New Zealand, a 5% increase was recorded of numbers accessing mental health support at District Health Boards (DHB's) between 2005/6 and 2006/7 (Ministry of Health, 2009a). Latest Ministry of Health data suggests that this trend has continued, with a 11% rise recorded between 2007 and 2008 (Ministry of Health, 2009b).

historically those accessing healthcare facilities have often denied and/or minimised mental health issues or refused referrals to mental health support for fear of stigmatisation (deGruy III, 1997). These attitudes are changing and increasingly individuals are accessing support for psychological problems (Vaughan & Hansen, 2004; Wang et al., 2007). In addition, programmes designed to reduce discrimination among those with mental illness, such as "Like Minds, Like Mine" (Vaughan & Hansen, 2004), have served to increase acceptance of those with mental illness (Ministry of Health, 2007) and raised awareness of access points for mental health services support. This has normalised the access of support from mental health services and professionals (Career Services rapuara, 2009) and improved awareness of access points for mental health support.

In the United Kingdom (UK), recent updates to the guidelines for treatment of depression from the National Institute for Clinical Excellence (NICE), stated the importance of therapy as a first option for mild to moderate depression (Kendrick & Peveler, 2010). A

1

recent New Zealand symposium held by the Department of General Practice at the University of Otago, "Mental Health: Are we on the right track?", explored the trend towards medicalisation of life problems and aimed to challenge and find alternatives to medication prescription (Department of General Practice, 2010). Increasingly G.P.'s are questioning the use of medication for mild to moderate disorders (Siriwardena, 2010), this has also been reported in New Zealand media (Chisholm, 2011; Mclean, 2010), raising the public's awareness. To meet this increasing need for mental health support; there are a number of challenges facing those providing mental health support.

One of the primary challenges include finding trained and experienced therapists (Gournay, 2006). Recent studies in the UK suggest that there is a significant shortfall between the number of therapists needed to meet consumers needs and that of practicing health professionals available (Gournay, 2006; Layard, 2006; Turpin, Hope, Duffy, Fossey, & Seward, 2006). The situation in New Zealand is likely to be similar. The 2006 New Zealand census identified the number of people achieving post-school qualifications in health professions has decreased since 2001 (Statistics New Zealand, 2007b).

Moreover health care professionals and providers are now being asked to 'do more with less' (Hegel et al., 2002). The current political and economic climate, had provided a rationale for reducing or rationalising health funding thus, limiting providers' ability to increase resources. For example, ten million dollars has been cut from the Wellington's Capital and Coast District Health Board's mental health funding (Cumming, 2010). Arguments against reducing or limiting increases to healthcare funding draw attention to evidence that the cost of providing effective interventions is less expensive than the cost of

not meeting the need for support (Davison, 2000; WHO, 2006), and that long-term medical costs of not providing care often exceed the costs of treatment (Davison, 2000; Wayne Katon & Unutzer, 2006; WHO, 2006). It may be argued that providing less has the potential to cost more in the long term. The financial costs of untreated depression and anxiety include lost productivity, reduced tax intake and benefit payments have been estimated at £17 billion in the UK (Layard, 2006). The amount of people in the U.K. receiving incapacity benefits due to mental illness now exceeds those on unemployment (Layard, 2006).

In addition, the prevalence of comorbidity between mental disorders may also impact on treatment. Several studies found that clients often present with comorbid disorders when accessing support (APA Task Force on Evidence-Based Practice, 2006; Hopko & Hopko, 1999; Parikh, 2008; Sobell & Sobell, 2000). A recent New Zealand study discovered that 20% of New Zealanders will experience two or more mental disorders in their lifetime (Browne, Wells, Scott, McGee, & Team, 2007). Comorbid disorders create complications for the client (Parikh, 2008; Wright, Gournay, Glorney, & Thornicroft, 2000) and may result in discrimination from health professionals (Evans-Lacko & Thornicroft, 2010). Diagnosis of comorbid disorders can also have implications for treatment, resulting in longer treatment (Wright et al., 2000) or one disorder negatively affecting treatment of another (APA Task Force on Evidence-Based Practice, 2006; Parikh, 2008). There are also considerations when treating people with comorbid physical and mental health problems, for example depression has been recognised as a risk factor for developing cardiovascular disease (Whooley & Unutzer, 2010).

An important consideration in New Zealand healthcare provision is the need to fulfil Treaty of Waitangi obligations to Maori and incorporate the principles of protection, partnership and participation into health care provision (Kingi, 2007; Williams, 2002). Especially as Maori make a disproportionately high number of those with difficulties with mental health (Oakley Browne, Wells, & Scott, 2006). Furthermore, a 50% increase in the Asian ethnic group along with a 14.7% rise in the Pacific peoples between 2001 and 2006 (Statistics New Zealand, 2007a) now challenges providers to offer culturally appropriate health services to New Zealand's increasingly diverse population while continuing to work towards meeting the needs of Maori.

In short, increasing numbers of individuals are seeking support for problems with mental health, whilst providers are faced with a number of challenges in meeting this need. These challenges include; choosing effective, culturally appropriate treatment, finding appropriately trained therapists, addressing comorbid mental and physical disorders with similar or less funding. The stepped care model of healthcare provision is a model which has the potential to meet these needs and address problems without sacrificing quality of care.

Psychological therapies

Current guidelines for mental health support recommend evidence-based interventions (APA Task Force on Evidence-Based Practice, 2006; Ministry of Health, 2009c; Rogan-Gibson & Earl, 2008), however, The number and variety of studies offering evidence for the efficacy of interventions published annually is ever increasing, reaching the point that "reviews of the reviews are needed to keep track of the advances*"* (Kazdin, 2008).As a

consequence, it is increasingly difficult to choose an appropriate evidence-based treatment from those avaliable (Gournay, 2006).

Furthermore, selecting the appropriate method for any given client as well as the duration and 'intensity' of the therapy can be difficult as a results of training and resource limitations. There are a variety of short term interventions found to be effective for mild to moderate disorders. Moderate to severe problems, or those that are chronic or enduring may require longer-term evidence-based treatments, combined with a higher level of therapist training and experience. In addition, when treatments do not produce sufficient change, a review of the intervention between client, therapist, peers and senior staff may ascertain future treatment direction for both those accessing support and those providing support.

There is a large body of evidence for the effectiveness (including cost effectiveness) of offering talking therapies, particularly if this happens earlier in treatment (Layard, 2006; Layard, Clark, Knapp, & Mayraz, 2007). Referral's to psychological therapies are associated with reduced absences from work, reduced emergency department access and improved adherence to medication use (de Lusignan, Chan, Parry, Dent-Brown, & Kendrick, 2011).

The variety of effective evidence-based interventions available can make treatment choice, client/therapist matching and allocation of resources difficult. Stepped care provides the framework for collaborative reviews of treatment goals, and the exploration of support options meeting the needs of all stakeholders.

Stepped Care

The stepped care model of healthcare provision has its origins in the United States (NIMHE North West, 2010). It offers strategies which serve the needs of individuals seeking healthcare and healthcare providers without sacrificing the quality of care. Factors discriminating stepped care from existing methods of treatment include the clear referral pathways between steps and recognition of the importance of self care in supporting change (Ministry of Health, 2009c). In psychological therapy practice, stepped care encourages the collaborative discussion of treatment options between client, therapist and other care providers. Treatment is started with the least intensive, intrusive and restrictive evidence based therapy available (Von Korff & Tiemens, 2000) which is most likely to bring about positive change (Bower & Gilbody, 2005). This may seem like common sense, and many therapists and health providers may already work in a manner similar to the stepped care model (Bower & Gilbody, 2005; Sobell & Sobell, 2000), however, this is not always the case. In addition, stepped care aims to standardise systems and procedures to improve efficiency (Bower & Gilbody, 2005) while providing similar or improved outcomes for stakeholders. The introduction of stepped care has been recommended and partially adopted in the primary mental health care sector in New Zealand (Ministry of Health, 2008).

More intensive interventions are discussed or recommended when clients' levels of distress and/or comorbid factors indicate a need for more intensive support (Scogin, Hanson, & Welsh, 2003). Alternatively, if client and therapist agree that increased support is needed, or when less intensive interventions are not bringing the desired change (Von Korff & Tiemens, 2000) treatment intensity can be changed. Individuals may also, in collaboration

with the therapist, step down to a treatment that is less intense (Bower & Gilbody, 2005; Earl, 2010; Rogan-Gibson & Earl, 2008; Sobell & Sobell, 2000).

Level 3 Severe and complex disorders
<u>High intensity therapy</u>
Specialist therapies such as CBT, ITP, DBT, Family Therapy, Trauma therapy and other specifically indicated therapies. For complex, severe, co-morbid, Axis II presentations, for clients not responding to treatment and for mild to moderate specific presentations as indicated.
Applies to Psychologists, Psychotherapists, and clinicians trained in specific talking therapies.

Level 2 Moderate to severe disorders
<u>Low intensity therapy</u>
Strategic and core interventions involving – basic CBT and DBT therapy, guided self help, psycho-education groups, skills groups, Problem solving therapy, Solution focused therapy, Behavioural activation, Motivational interviewing, eTherapy
Applies to clinicians appropriately trained in a therapeutic intervention from MDT, Crisis services, inpatient clinicians (Nurses, Social Workers, Occupational Therapists, Medical doctors, Psychologists and Psychotherapists)

Level 1 Recognition, assessment and support
Having a culture of psychological mindedness – to engage the client and establish a therapeutic alliance to support clients in their recovery.
Emphasises the use of basic knowledge and skills in communication and interaction with clients, such as Real skills, Real skills Plus, Care Coordinator training.
Applies to all clinical staff.

CBT = Cognitive behavioural Therapy   DBT = Dialectical Behavioural Therapy
ITP = Interpersonal Therapy   MDT= Multi Disciplinary Team

Figure 1 Stepped care in Waitemata District Health Board mental health services.

Diagram from (Earl, 2010).

Figure 1 represents the proposed stepped care talking therapy model to be implemented in the WDHB Adult Mental Health Service. Upon entering the service, a client is assessed taking into account a variety of factors including; the presenting disorder/s, types of therapy deemed suitable and the available therapists' skill level are considered. Once this is carried out they are allocated to an appropriate level of therapy.

A systematic literature review (Bunting, 2010) of the stepped model of mental healthcare provision found that using this approach to mental healthcare provision offered potential savings of both time and resources to healthcare providers whilst providing similar or better results than treatment as usual (Araya et al., 2003; Bischof et al., 2008; Drummond et al., 2009; Kidorf, Neufeld, King, Clark, & Brooner, 2007; Tolin, Diefenbach, Maltby, & Hannan, 2005; Treasure et al., 1996; Van't Veer-Tazelaar et al., 2010; Van't Veer-Tazelaar et al., 2009; Van Straten, Tiemens, Hakkaart, Nolen, & Donker, 2006). Of the studies that did not explore the costs associated with treatment, three cited this as a limitation in their evaluation (Davidson et al., 2010; Meeuwissen, van der Feltz-Cornelis, van Marwijk, Rijnders, & Donker, 2008; Zatzick et al., 2004). Increased client satisfaction with treatment, including increased treatment engagement, was also found (Araya et al., 2003; Brooner et al., 2007; Davidson et al., 2010; W. Katon et al., 1999; Kidorf et al., 2007; B. Thompson, Fries, Hopp, Bowen, & Croyle, 1995).

The feasibility of using the stepped care model to provide psychological therapies for a wide variety of Diagnostic and Statistical Manual, version four, text revision (DSM-IV-TR) disorders was shown, in a variety of settings and populations including depression (Araya et al., 2003; Davidson et al., 2010; Gjerdingen, Crow, McGovern, Miner, & Center, 2009; W. Katon et al., 1999; Lin et al., 2000; Meeuwissen et al., 2008; Van't Veer-Tazelaar et al., 2009; Van Straten et al., 2006), anxiety disorders (Tolin et al., 2005; Van Straten et al., 2006), eating disorders (Treasure et al., 1996), post traumatic stress disorder (Zatzick et al., 2004), substance abuse and dependence (Bischof et al., 2008; Borsari, Tevyaw, Barnett, Kahler, & Monti, 2007; Breslin et al., 1998; Brooner et al., 2004; Brooner et al., 2007; Drummond et

al., 2009; Kidorf et al., 2007). In addition the stepped care model was feasible across the age span, from students (Borsari et al., 2007) to older adults (Van't Veer-Tazelaar et al., 2010; Van't Veer-Tazelaar et al., 2009).

Limitations reported by the studies found in the research included: higher dropout rates (Davidson et al., 2010; Kakko et al., 2007; Tolin et al., 2005; Van't Veer-Tazelaar et al., 2009); long term follow required up to confirm results (Brooner et al., 2007; Van't Veer-Tazelaar et al., 2009); sample size too small (Bischof et al., 2008; Borsari et al., 2007; Cacciapaglia, 2006; Franklin, 2009; Gjerdingen et al., 2009; Kidorf et al., 2007; Lin et al., 2000; Otto, Pollack, & Maki, 2000; Tolin et al., 2005); confounding factors (Borsari et al., 2007; Cacciapaglia, 2006; Gjerdingen et al., 2009; B. Thompson et al., 1995); clients seeking help outside of trial (Breslin et al., 1998; W. Katon et al., 1999); not collaborative between client and therapist (Breslin et al., 1998; Davidson et al., 2010); increased cost of treatment or costs not explored (Franklin, 2009; Kakko et al., 2007; Van't Veer-Tazelaar et al., 2010); success rates among minorities lower (Franklin, 2009); harder to implement (Kakko et al., 2007; W. Katon et al., 1999; Van Straten et al., 2006); limited in exploration (Brooks et al., 2007; Kidorf et al., 2007; Otto et al., 2000; Zatzick et al., 2004); problems with intervention timing and/or content (Borsari et al., 2007; Breslin et al., 1998; Cacciapaglia, 2006; Reid et al., 2003; Smith et al., 2001; B. Thompson et al., 1995; Tolin et al., 2005; Van't Veer-Tazelaar et al., 2010); workforce problems (Kakko et al., 2007; Van Straten et al., 2006); and limitations in the research design (Bischof et al., 2008; Borsari et al., 2007; Breslin, Sobell, Sobell, Buchan, & Cunningham, 1997; Breslin et al., 1998; Brooks et al., 2007; Davidson et al., 2010; Kidorf et al., 2007).

Feedback from therapists is something that is ultimately necessary for the effective delivery of stepped care, and yet was absent from most studies. It has been found that without support and opportunity to offer and receive feedback, therapists are less likely to adopt new practice (Mueser, Torrey, Lynde, Singer, & Drake, 2003). Only one study reported therapists' reluctance to work with the stepped care model as a potential limitation and confounding factor (Van Straten et al., 2006).

If therapists' views and experiences of stepped care are not investigated, problems experienced by an important stakeholder could be omitted from existing research. Problems therapists had with the stepped care model were alluded to in some studies, for example the reported limitation that steps were difficult to access or not intensive enough (Borsari et al., 2007; Cacciapaglia, 2006; Smith et al., 2001; B. Thompson et al., 1995), the fact that there were higher than expected numbers dropping out of treatment (Brooner et al., 2004; Davidson et al., 2010; Drummond et al., 2009; Tolin et al., 2005; Van't Veer-Tazelaar et al., 2009) along with problems implementing stepped care (Drummond et al., 2009; Kakko et al., 2007; W. Katon et al., 1999; Reid et al., 2003; Smith et al., 2001; B. Thompson et al., 1995; Tolin et al., 2005; Van't Veer-Tazelaar et al., 2010; Van Straten et al., 2006). All of which may indicate difficulties for those providing treatment. Feedback from therapists may enable such limitations to be addressed and adaptations made to suit individual clients or treatment settings.

While research findings are instrumental in drawing conclusions that can be generalised to broader contexts or areas of a discipline, the positions held by various stakeholders also have the potential to affect the results. If the views of all stakeholders are

not taken into account, it may be difficult to form an accurate and balanced view of the effectiveness of the programme or intervention being evaluated (Page & Stritzke, 2006).

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┌─────────────────────┐
│ doctors             │───┐
└─────────────────────┘   │
┌─────────────────────┐   │
│ self referral       │───┤
└─────────────────────┘   │
┌─────────────────────┐   │
│ primary care agencies│──┤
└─────────────────────┘   │
┌─────────────────────┐   │    ┌──────────────┐   ┌──────────────┐   ┌──────────────┐
│ significant others  │───┤    │ multi        │   │ face-to-face │   │              │
└─────────────────────┘   ├───▶│ disciplinary │──▶│ therapy or   │──▶│ discharge    │
┌─────────────────────┐   │    │ team (MDT)   │   │ group        │   │              │
│ other mental health │───┤    └──────────────┘   │ therapy      │   └──────────────┘
│ clinicians          │   │                       └──────────────┘
└─────────────────────┘   │
┌─────────────────────┐   │
│ crisis team members │───┤
└─────────────────────┘   │
┌─────────────────────┐   │
│ mental health       │───┘
│ therapists within   │
│ secondary care      │
└─────────────────────┘
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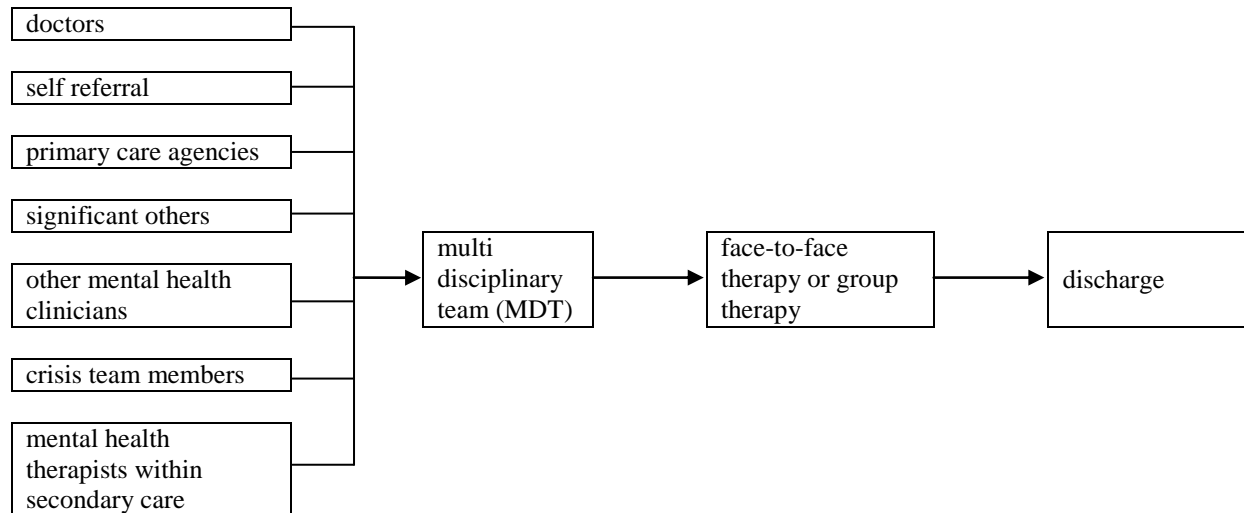
Clients are referred to therapy from a variety of sources and are allocated to a therapist by the MDT for either group or face-to-face therapy. At the MDT team meeting, clients are allocated to therapy according to therapist availability and the referrers recommendations.

Figure 2. Current WDHB mental health service referral pathways.

Evaluating changes to healthcare provision

The primary purpose of research is to use an evidenced based practice framework (Pope, 2007), to identify new knowledge within a particular field of study (Daniels, 2009). The dialectic that often occurs in healthcare research is a trade off between maintaining experimental control and producing findings that are generalisable (Heppner, Wampold, & Kivlighan, 2008). Higher control leads to greater internal validity whereas less control offers greater external validity and therefore generalisability. The greater the number of steps a researcher takes to maximise control, the more simplified (or even artificial) the research context can become (Bloom, Fischer, & Orme, 2006; Heppner et al., 2008).

The experimental controls necessary for scientific study may mean that what is studied, may bear little resemblance to the version of the programme intended to be implemented (Rossi, Lipsey, & Freeman, 2004). One of the most serious limitations to experimentation in natural settings is that the experimenter is unable to assign participants randomly to different conditions (Shaughnessy & Zechmeister, 1997). The evaluator must struggle to find a workable balance between procedures that ensure validity of findings, and those which make findings timely, meaningful and useful to consumers (Rossi et al., 2004).

The efficacy of therapeutic interventions are often given by the results of Randomised Controlled Trials (RCT's) (Davies, Nutley, & Smith, 2000), which traditionally concentrate on improvements in symptoms or functioning (Rose et al., 2008). In addition, the type of individuals seen in RCT's may differ significantly from those seen by therapists due to selection criteria (Rossi et al., 2004; Ruscio & Holohan, 2006).The American Psychological Association (APA) has raised concerns on the emphasis of treatment effects and questioned the applicability of results to clients diversity (APA Task Force on Evidence-Based Practice, 2006). Davies, Nutley and Tilley (2000) discuss a range of methodological and practical limitations of randomising participants to explore treatment or programme effects in healthcare systems.

While there is an ever increasing amounts of literature attesting to the efficacy of a variety of programmes and interventions in controlled trials, there is less available on the effectiveness of them routine practice (Bower, Gilbody, & Barkham, 2006). There is also a suggestion that some studies fail to address outcomes important to all stakeholders, including practitioners, patients, community leaders, or policymakers (Glasgow & Emmons, 2007) and

that healthcare programmes need to be evaluated from a broader systemic perspective (Daniels, 2009). The effectiveness of a programme or intervention, may not only rely on disorder specific treatment effects, but may also relate to the ease of implementation; i.e. whether or not the programme is doing what it reports to do for the population it is targeting; and if the cost of the service is reasonable in relation to the outcomes it is achieving (Rossi et al., 2004).

The guidelines of programme evaluation were chosen to allow a fuller exploration and solicitation of feedback from all stakeholders, as a review of published stepped trials found no studies that explored the effects of implementing stepped care on all participants (Bunting, 2010). Programme evaluation has the potential to meet both high standards of scientific research whilst simultaneously being dedicated to serving the needs of stakeholders (Rossi et al., 2004). This may increase the ability of those in the position of assessing, reviewing and implementing health care services to make informed choices (Pope, 2007).

Programme evaluation

A limitation of the RCT design in healthcare systems is that the use of randomisation may be impractical or too expensive to apply in some circumstances (Davies, Nutley, & Tilley, 2000). Staffing levels at the WDHB mental health service makes continuing treatment as usual (TAU), whilst randomising the introduction of stepped care in any impractical. In addition, numbers of staff offering therapeutic interventions, mean that there are insufficient practitioners to offer a stepped care treatment model alongside TAU. Resources such as room availability (for both groups and face-to-face therapy) do not allow both methods of

healthcare delivery to be carried out simultaneously, funding restrictions also prohibit the hiring of further staff or purchase of resources.

Programme evaluation has traditionally had an academic orientation towards the study of social and training programmes, however it is increasingly used in areas such as client advocacy and policy making (Rossi et al., 2004). Programme evaluation involves more than competent data collection and analysis (Page & Stritzke, 2006; N. Thompson, Kegler, & Holtgrave, 2006). A participant oriented approach is used to identify and engage all stakeholders (N. Thompson et al., 2006). Involving stakeholders enables informed judgements about the processes and outcomes to be gathered from all those that are affected (Page & Stritzke, 2006; N. Thompson et al., 2006), see Figure 3.
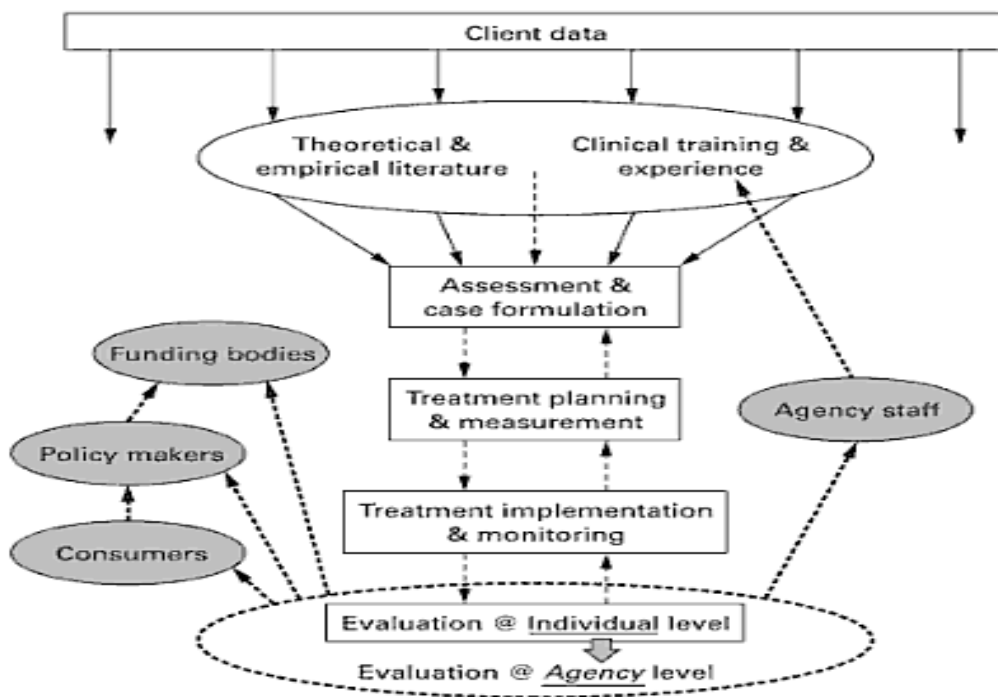
Figure 3. Programme evaluation model
Diagram from (Page & Stritzke, 2006, p. 148)

Evaluation tools and methods

Restraints on resources in healthcare sectors may cause pressure from funders to concentrate on those that have been shown to be effective and efficient (Rossi et al., 2004; Sheperis, 2009). Stakeholders funding mental healthcare are also increasingly requesting robust evidence demonstrating the effectiveness of programmes from programme facilitators (Bloom et al., 2006; Daniels, 2009; Sheperis, 2009).

A US study found the likelihood of clients and/or therapists utilising or completing an outcome measurement, is reduced, if it takes more than five minutes to complete (S.D. Miller, Duncan, Sorrell, & Brown, 2005). As stepped care aims to improve the efficiency of services, the use of cumbersome, inefficient and/or expensive measurement technology may undermine this (Bower et al., 2006). The practicality of introducing new tools must be considered against training needs, costs, utility and usability (Constantine & Ponterotto, 2006) as well as the role psychometric tools already in use, are fulfilling. Data collection has the potential to place unwelcome demands on stakeholders and disrupt or even compromise primary service functions (Rossi et al., 2004), therefore, consideration needs to be taken of the effect of data collection on current staff workloads.

An evaluation of brief outcome measurement tools by stepped care project leaders recommended the introduction of the session rating scale (SRS) and outcome rating scale (ORS) as client directed outcome measurement tools that would support therapists and stepped care treatment reviews. The Health of the Nation Outcome Scale (HoNOS) is currently in use in the WDHB mental health service as part of mental health treatment.

Session Rating and Outcome Rating Scales.

There is now a considerable amount of evidence demonstrating that the quality of the therapeutic alliance is one of the better predictors of treatment outcome (Horvath, 2001; Horvath & Bedi, 2002; Safran & Muran, 1996; Safran, Muran, & Proskurov, 2009; Stevens, Muran, Safran, Gorman, & Winston, 2007). It has been found that therapists are often unaware of what clients leave unsaid in session, particularly if they include negative reactions, thoughts or feelings (Regan & Hill, 1992; Safran, Muran, Samstag, & Stevens, 2002). Recognising and resolving early alliance ruptures has been found to correlate to client retention and positive client outcomes (Muran et al., 2009).

The SRS and ORS are 4 item visual analogue instruments each reflecting items components of the therapeutic alliance (SRS) and client functioning (ORS). The alliance is measured in four areas; these are based on Bordin's 1979 definition of the components of the therapeutic alliance (Anker, Owen, Duncan, & Sparks, 2010; Duncan et al., 2003b; Horvath, 2001; Stevens et al., 2007). Clients place a vertical mark crossing a horizontal 10cm line. The mark is placed nearest the end best describing their perception of the following areas; the therapeutic relationship, feeling heard understood and respected; goals and topics, working on what they wanted to work on or talk about; the therapists approach, the approach is a good fit for me and their overall rating of the session, if this session was right for them. Similarly to the SRS, for the ORS, therapists ask clients to place a mark on a 10cm line, rating their perception of their individual functioning, interpersonal functioning, social functioning and overall functioning. The therapist measures (with a 10cm ruler) the client scores and adds them up. Lower scores in the ORS indicate increased distress and lower SRS scores reflect a poor alliance. Traditionally the ORS is completed at the start of the session and how a client

16

rates themselves can direct topics explored in the session. The SRS is completed just prior to the end of the session; any problems in the alliance are discussed or prioritised for the following session.

An analysis for clinical and normative data of a sample of 34790 participants, found reliable change was indicated by a change (in either direction) in ORS scores of 5 points or more. The score identifying functional from dysfunctional populations was found to be 25 (Anker et al., 2010; S. D. Miller, Duncan, Brown, Sparks, & Claud, 2003), those scoring above 25 and accessing therapy were found to be seeking personal growth or mandated to access services by others (Duncan & Sparks, 2010).

Despite the brevity of the questionnaires, which are reported to take less than a minute to complete (S.D. Miller et al., 2005), the SRS and ORS have been shown to be reliable, valid, and have high feasibility (Duncan et al., 2003a; S. D. Miller et al., 2003), Cronbach's alpha .88 for SRS (Duncan et al., 2003a) and .93 for the ORS (S. D. Miller et al., 2003) indicating strong internal consistency. Scale brevity improved utility with increased ease of use by both client and therapist, in addition, the SRS and ORS have been shown to improve client retention and outcomes (S.D. Miller et al., 2005).

Health of the Nation Outcome Scale.

Disorder specific measures may be more responsive to the changes in presenting disorders, however, general mental health measures can capture any unforeseen information or effects (Garratt, 2009) therefore, using both has been recommended in healthcare evaluations (Garratt, 2009; Smith Jr, Manderscheid, Flynn, & Steinwachs, 1997). The

17

HoNOS was developed in the United Kingdom to enable therapists to quantify and measure progress towards the national health targets of improving health and social functioning of those with mental illness (Wing et al., 1998). The HoNOS family of psychometric tools is commonly used in a number of countries including the United Kingdom and Australia and was the first measure to be mandated as a standard measure of assessment and recovery in New Zealand (Te Pou, 2009).

The HoNOS is a twelve item clinician rated scale, the items are designed to rate a number of health and social domains and are scored by the clinician according the following format, 0 = no problem, 1 = minor problems requiring no action, 2 = mild problem but definantly present, 3 = moderately severe problem, 4 = severe to very severe problem. The rating is made for the most severe problem occurring in that area, usually for the two weeks prior to scoring. Information from a number of sources (friends, family or other health professionals) can be included. For items in which the assessing clinician does not have information, a score of 9 is given. The domains the HoNOS explores are as follows: 1. Overactive, aggressive, disruptive or agitated behaviour, 2. Non-accidental self injury, 3. Problem drinking or drug-taking, 4. Cognitive problems, 5. Physical illness or disability problems, 6. Problems associated with hallucinations and delusions, 7. Problems with depressed mood, 8. Other mental and behavioural problems, 9. Problems with relationships, 10. Problems with activities of daily living, 11. Problems with living conditions and 12. Problems with occupation and activities (Royal College of Psychiatrists, 2008)

The HoNOS has been shown to have high construct validity, fair to moderate reliability, with good feasibility and utility in the health care setting, in studies of internal

consistency. Cronbach's alpha has ranged from 0.59 to 0.76, supporting its use as summary of the severity of symptoms (Pirkis et al., 2005). The HoNOS is currently completed by the mental health therapist in the WDHB mental health service upon client entry, and then every 90 days, upon discharge or during a change in setting, for example, moving from inpatient to community treatment.

World Health Organisation Quality of Life, Brief Version.

Several researchers have recommended that the evaluation of healthcare outcomes must include evidence on the effect of the intervention on both the individual's health status as well as their quality of life (Contopoulos-Ioannidis, Karvouni, Kouri, & Ioannidis, 2009; Garratt, 2009; Glasgow & Emmons, 2007; Hamming & De Vries, 2007; Smith Jr et al., 1997; World Health Organisation, 1997). As quality of life is a broad ranging and subjective concept that can be affected by a variety of factors, it is perhaps best definable by the individual (Hamming & De Vries, 2007) making the client's perspective critical when gathering information.

The WHOQOL-BREF is a client rated 26 item instrument adapted from the WHOQOL 100 questionnaire. The first two questions are 'benchmark' questions relating to general health and quality of life, the remaining 24 items measuring the broad domains of physical health, psychological health, social relationships and environment (Skevington, Lotfy, & O'Connell, 2004). Each of these domains is scored as separate dimension. The WHOQOL-BREF results can be displayed in a profile producing a score for each of the 4 domains and/or a score for each of the individual questions or facets. Facet responses are scaled on a 5 point likert scale for each question, for example, the question "How well are

you able to concentrate?" has the following possible responses: 1 - not at all, 2 - a little, 3 - a moderate amount, 4 - very much, 5 - an extreme amount.

In a study of data gathered from 24 countries the WHOQOL-BREF was shown to have strong construct and cultural validity and good reliability. Cronbach's alpha averaged above .80 in the domains of physical health, psychological health and environment and .68 in the domain of social relationships (Skevington et al., 2004). The shortened version, 26 versus 100 questions, would indicate greater feasibility and utility for clients and therapists, taking as little as five minutes for clients to complete (Billington, Landon, Krageloh, & Shepherd, 2010). To decrease disruption to therapist workloads and ease data collection, the WHOQOL-BREF will be administered at the same time as the HoNOS, at client entry to the service and then every 90 days or upon discharge.

Therapists

It is understood that a range of qualified individuals provide psychological therapies in the WDHB mental health service, including doctors, nurses and occupational therapists, social workers, psychotherapists and psychologists, however, the term therapist has been used to indicate any individual, trained appropriately, providing psychological talking therapies. Solicitation of feedback and recommendations from those with experience in treating complex presentations may enable the greater understanding and further development of effective evidence based treatments (Ruscio & Holohan, 2006). In addition, implementation and adoption of the stepped care model may be eased if there are opportunities for stakeholders to express concerns, solicit feedback and understand the model rationale (Mueser et al., 2003). Feedback from therapists and RAMHS stakeholders will be used to

explore barriers and if needed, adapt the stepped care model and methods of data collection. Regular meetings between research personnel, RAMHS and key WDHB mental health service staff will be held to review progress and explore solutions to data collection or stepped care implementation problems.

Evaluating access

Accessibility of psychological services for those seeking support (waiting times, numbers of clients entering the service and length of contact with service), treatment utilisation and a comparison of costs to the health service were identified as areas of interest to the WDHB mental health service (Earl, 2010; Rogan-Gibson & Earl, 2008).

The WDHB Health Care Community (HCC), case management software currently collects a range client contact information, including numbers of clients entering the service, treatment type, treatment duration and types of clinical contacts (assessment, phone call, letter etc). In addition, summaries of numbers of individuals entering the service, length and type of contact for each research site can be accessed through the software. Data will be received for each study period, after it has been completed, in excel sheets from the WDHB data warehouse.

Ethics

Ethics approval was not required for this research, as this was an evaluation of data gathered by the WDHB mental health service. The WDHB ethics centre was consulted and stated that ethics approval was not be needed for this research as it is an evaluation of services, not the introduction of any new treatment or approach. While stepped care is

described as being 'introduced' to the WDHB mental health service, the model formalises existing ways of working within the WDHB mental health service. Use of information for service evaluation is currently discussed with clients at entry to the service and included on the confidentiality form; with all clients entering the service indicating their agreement that data gathered by the WDHB mental health service may be used for this. While no information identifying clients would be visible to the researcher, any forms returned with information that may identify a client (for example, name, date of birth) would have this removed by WDHB mental health service staff prior to the researcher working with it. No information that could identify a client would be used or published in this research. In addition, the Waitemata District Health Board stepped care project leaders were given copies of the completed thesis for review, prior to submission and printing.

Purpose

The stepped care model for the delivery of psychological therapies in secondary mental health care was to be introduced into the Whangaparoa Rodney Adult Mental Health Services (RAMHS), a satellite service of the WDHB mental health service, for the provision of psychological therapies in the secondary mental health care sector on the 1st February 2011. This study aims to evaluate the stepped care model of psychological therapy provision in the secondary mental healthcare sector in the Waitemata District Health Board from the perspective of all stakeholders. The NS1 team will act as control continuing with TAU, Figure 2 offers a view current treatment as usual (TAU). The use of programme evaluation guidelines will enable any barriers to implementing the model to be discussed and addressed. Change to clients' outcomes, access to talking therapies as well as treatment duration and cost will also be explored.

Method

The following research design (Figure 4) was created in collaboration with the WDHB mental health service project leaders to fit both their needs and the researcher's requirements over the study period. The proposed study design was quasi-experimental and consists of three interlocking elements: a prospective cohort study, a pre-post study and an experimental case control. The proposed study duration was nine months and consisted of; the prospective cohort study, duration three months and the experimental case control, duration nine months. The start date for the evaluation was the 1st of November 2010, making the end of the evaluation the 31st of July 2011. For a diagram of TAU, see Figure 2 on page 11.

	Prospective cohort study			Experimental case control							
Month	1	2	3	4	5	6	7	8	9		
RAMHS	Treatment as usual			Stepped care							pre-post study
NS1	Treatment as usual			Treatment as usual							

Figure 4. Evaluation design.

Prospective Cohort Study

The prospective cohort arm of this study, in yellow, aimed to capture existing differences between Rodney Adult Mental Health Services (RAHMS) and North Shore One (NS1), prior to the introduction of stepped care. Baseline differences in data between RAMHS and NS1 can be explored, and differences existing prior to the start of stepped care accounted for when exploring results. In addition, this would enable elements that are unique to either service to be further explored, and if necessary, service delivery tailored to fit. In addition, information from the prospective cohort study would be fed back to WDHB mental

23

health staff, and any feedback or suggestions used to ease the implementation of data collection or the stepped care model.

Pre-Post Study

The pre-post part of this study, explores any measurable differences from the introduction of the stepped care model. It was proposed that data would be gathered for a three months period prior to the introduction of stepped care, and for six months post stepped care introduction. Study participants included all new clients to the service as well as clients already with the service at the start of the evaluation. At the end of the three month (90 day) period clients still with the service would be rolled over to the stepped care model of treatment after completing the 90 day HoNOS and WHOQOL. All new clients entering the service during this month would form a second intake. This would potentially allow three different sets of client data to be compared, the first group consisting of those that have no experience of stepped care, clients already with the service as well as those who enter and exit before stepped care is introduced. The second group consisting of those having an experience of both stepped care and TAU, both longer term clients (those receiving treatment for longer than 3 months) and shorter term clients (entering close to the implementation of stepped care). The third group of clients will have only an experience of stepped care, having entered WDHB mental health service after stepped care has been introduced.

Experimental Case Control

This part of the study, in blue, aims to address the potential limitation that findings may be due to seasonal variance or external events. This allowed significant differences found at RAHMS after the introduction of stepped care to be compared with significant

24

differences identified at NS1. Any seasonal variation, for example school holidays, in data would theoretically be observed at both RAHMS and NS1. This can then be removed as an effect of the introduction of stepped care.

Stepped care in RAHMS

Figure 5 is a diagrammatic view of the stepped care allocation process to be implemented in the WDHB mental health service. Clients are allocated to a treatment level at team reviews after a comprehensive assessment; taking into account the client's presenting diagnosis, needs, types of therapy deemed suitable and the availability and skill level of therapists providing psychological therapy. Referral sources to psychological therapies are the same as those identified in TAU and described in Figure 2 on page 11 .

Entry to service	Assessing therapist and/or MDT** team review	Treatment recommendations based on research and clinical judgement	Therapy level	Eight week review, treatment completion or negative outcomes[*]	Team review	Discharge from therapy and/or referral out

Entry assessment → Level 3 / Level 2 / Level 1 → Treatment outcomes reached — yes / no
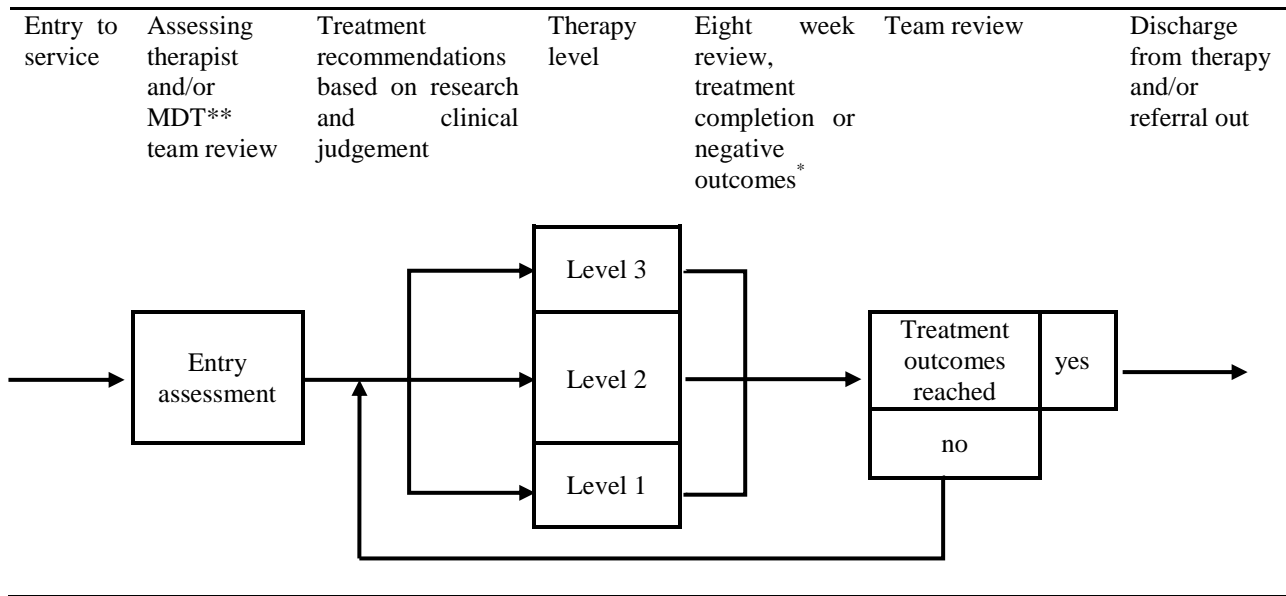
Figure 5. Stepped care pathway

[*] Negative outcomes may include therapeutic ruptures or an increase in risk factors, these may reported from those involved in the individuals care or identified from the SRS/ORS.
[**] Multi disciplinary team

Client Measures

Client outcomes will be measured by the Session Rating Scale (SRS), Outcome Rating Scale (ORS) and The Health of the Nation Outcome Scales (HoNOS), which are psychometric tools currently in use by the WDHB mental health service. Quality of life will be measured by the World Health Organization's Quality of Life instrument (WHOQOL-BREF). Data from SRS, ORS and HoNOS will continue to be collected as usual while the WHOQOL-BREF will be offered to every client upon entry and three months post entry by their case manager (as is currently carried out with the HoNOS), or as part of exit interview if this occurs earlier than three months. The SRS and ORS will also be used to elicit group feedback and this will be administered by the group facilitators. The SRS, ORS and WHOQOL-BREF information will be collected from therapists, from the evaluation sites, on the client completed forms and entered into excel spreadsheets fortnightly.

Session rating scale (SRS) and ORS scores will be measured by the researcher for each domain, scores will be added and graphed with the dates they were completed for individual clients. To increase uptake and reduce administrative workloads, participating therapists were offered completed SRS and ORS graphs fortnightly if they so requested. Data from WHOQOL-BREF forms will be entered into excel spreadsheets, and domain scores calculated. HoNOS data will be received from the WDHB data warehouse for all clients recorded as receiving therapy.

First and last recorded scores from each of the participating clients SRS, ORS, WHOQOL-BREF domains and HoNOS will be subtracted from each other and form part of

the evaluation to track change over the duration of therapy. Any measurable differences pre- and post-stepped care introduction will. In addition, the means of all SRS, ORS, WHOQOL-BREF domain and HoNOS scores pre- and post stepped care introduction will be compared. Entry SRS, ORS, WHOQOL-BREF domain and HoNOS scores will be explored for any changes pre- and post-introduction. In addition, SRS and ORS data will be explored for fit with suggested guidelines for use from the originating authors. Data from NS1 will be analysed similarly, and used for comparative purposes with the RAMHS data and capture of any seasonal variation.

WDHB Mental Health Service

Data will be sorted for contacts relevant to the study, the specific type of therapy or group and the associated stepped care level. Total client numbers and total client contacts (of all types) for each service will be calculated to produce ratios of therapy and non-therapy clients and ratios of therapeutic and non-therapeutic contacts for each service. Data will be analysed between RAMHS and NS1 for the first phase of the evaluation, in order to produce baseline results for each site. Data from the second phase will allow the capture of any seasonal variation, for example, anecdotally school holidays are reported to have an effect on numbers of clients accessing a service. Finally RAMHS data will be analysed for differences between pre- and post-stepped care introduction. Cost of care will be calculated by multiplying cost of treatment type/s by number of treatment contacts. Comparisons can be made between total cost of treatment per client from entry to exit both prior to, and after the introduction of the stepped care model.

Therapist.

While the therapists' experience of the implementation of the stepped care model was seen to be an important aspect of evaluating the model. Limitations in the sample size and duration, meant that gathering feedback from each therapist was not possible. In addition, the researcher's prior relationship with WDHB mental health service psychological therapies leaders during the course of the evaluation design may have implied alignment with the management team. This may cause reluctance from therapists to discuss or disclose negative experiences, or criticisms of the stepped care model and its implementation. Therapist comments and concerns were summarised by WDHB stepped care project members during RAMHS stepped care meetings and reviews, these comments were intended to form part of the findings.

Participants

To ensure adequate numbers of participants, at the start of the study, all therapists will were asked to invite new and existing clients accessing therapy in both RAMHS and NS1 to complete the outcome measures. Clients from the pre stepped care implementation phase will be integrated into the stepped care model after three months, **Error! Reference source not ound.** provides a view of stakeholders, areas of interest and selected outcome measures.

Table 1: Study participants and areas of exploration

Stakeholder	Areas of interest	Measures
Client	Therapeutic alliance	SRS
	Therapeutic goals	ORS
	Quality of life	WHOQOL-BREF
	Change in presenting disorder	Disorder specific measures
	General mental health	HoNOS
Therapist	Therapeutic alliance	SRS
	Experience of stepped care	Focus groups
	Feedback on stepped care	Therapist survey and feedback
WDHB mental health service	Accessibility of therapies	Waitlist times
		Clients numbers accessing therapeutic services
	Duration of therapy	Length of contact with WDHB mental health service
		Cost of treatment per client
	Cost to WDHB	Time spent in different levels and types of therapies
	Utilisation of psychological therapies.	Numbers of clients accessing specific therapies

Some areas of interest may apply to different stakeholders; for example accessibility of therapies is an area of interest to all stakeholders.

Data analysis

      All data will be analysed with, wherever relevant, independent and paired t-tests with

IBM SPSS version 18 software.

Results

The study results and findings are organised into four main areas. The first section discusses findings from the programme evaluation aspect of this study. Barriers, and where applicable, solutions found during the course of the implementation and evaluation of stepped care will be discussed. Included in this section are and changes made to the study data collection and evaluation methods, the information presented will primarily be qualitative in nature.

The second section discusses the effect the stepped care model of healthcare provision had on access to talking therapies. This was explored by examining the numbers of individuals accessing talking therapies as well as the number of talking therapy sessions provided. Any effects of the stepped care model, on the number of clients accessing the service or the number of therapeutic sessions delivered, will be explored for statistical significance.

The third section will discuss changes to presenting problems of the clients accessing mental health support over the course of the study at RAMHS as well as any differences found between the stepped care model in RAMHS and treatment as usual (TAU) at NS1. This will be explored by statistically examining ORS, HoNOS and WHOQOL-BREF data by the gathered by therapists and reporting any differences between RAMHS and NS1 pre- and post-stepped care introduction.

The final section will explore any changes to client satisfaction and the therapeutic alliance over the course of the introduction of stepped care. This will be done by exploring

SRS scores as well as any changes to question 24 of the WHOQOL-BREF; which explores clients' satisfaction with access to health services. Any change to client attendance rates at NS1 and RAMHS will also be explored, the number of cancelled sessions as well as the number the client did not attend, can also be an indicator of client satisfaction.

Programme evaluation results

During the course of the study, meetings were held regularly between WDHB stepped care project leaders, RAMHS stakeholders and AUT researchers. These meetings were used to discuss the implementation and evaluation of the stepped care model of providing talking therapies at RAMHS. The meetings provided an opportunity to discuss progress and any barriers relating to the implementation of the stepped care model. In line with programme evaluation guidelines, information from stakeholders is sought and, if needed, changes are made to the programme over the introduction and evaluation period. These meetings also to enabled therapists to access support using the ORS, SRS and WHOQOL-BREF from the stepped care project leaders.

Therapist competencies

One of the initial evaluation barriers was faced during the assessment of therapist competencies. This phase was to have been completed prior at the start of the stepped care evaluation phase. Psychological therapies project leaders identified that, in order to provide appropriate tailored support to clients experiencing severe or chronic mental health problems, knowledge of staff competencies in talking therapies was necessary. Many therapists identified themselves as having had training in evidence based therapeutic models such as cognitive behavioural therapy (CBT), however, without knowledge of the form or intensity of

32

that training or the therapists' current therapeutic practice, appropriate client allocation to a therapy level may be difficult. In addition, if a client is experiencing significant levels of distress, is at high risk of harm to themselves or others or has a co-morbid or complex presentation, allocation to a therapist with little experience and/or minimal training may place them at greater risk of treatment failure or harm.

These assessments were to be completed prior to November 2010; however, completion of these by RAMHS clinical team leaders did not happen until late March 2011. This impacted attempts to discuss implementation of the stepped care model as well as data collection and delayed the implementation of the stepped care model. There appeared to be a level of reluctance from therapists to complete this evaluation (Vinsen, 2011), despite competencies having no effect on workloads, pay or position within the WDHB mental health service. During this process, therapists were less likely to ask a client to complete the SRS, ORS and WHOQOL forms, and this had a significant effect on data collection at RAMHS during the initial months of the study, see data collection returns in Table 2 on page 36.

Stakeholder attendance

Initial formal training sessions for stepped care and the SRS, ORS and WHOQOL-BREF were well attended by RAMHS and NS1 team members. Follow up meetings to discuss stepped care, while open to all RAMHS stakeholders including therapists, were frequently only attended by one or two RAMHS stakeholders, and on a few occasions no RAMHS stakeholders were present at the meeting. There were few therapists at any of the meetings and staff feedback regarding stepped care was often presented by RAMHS team leaders. This meant that there was limited time to discuss any problems with those having

concerns or generate solutions. Stakeholders understanding and acceptance of the stepped care model and its rationale for the delivery of psychological therapies was seen an important part of its introduction.

Ongoing participation and compliance during extended evaluations has been identified as a barrier in "real world" research (Campbell & Hemsley, 2009). If stakeholders' feedback and concerns are not sought, discussed or explored, the barriers to introducing changes to healthcare provision may not be addressed, increasing the likelihood of failure. Over the course of the study difficulties and barriers to implementing the stepped care model of delivering psychological talking therapies were frequently found or raised by teams. Many of the questions, suggestions or changes raised by RAMHS stakeholders regarding the stepped care model and its proposed form, suggested that the rationale for the stepped care model was not necessarily understood or accepted by them. While alternative methods of disseminating information were attempted, little feedback was returned to the researcher regarding barriers.

Referral process

During early discussions with RAMHS stakeholders involved in referring clients to talking therapies (mainly team clinicians other than therapists), it was discovered that few knew the talking therapies practiced by therapists in the service, or which clients may be appropriate for talking therapy. It was also discovered that clients were offered therapy by without the referrers knowing if there were therapists available. This led to client disappointment when therapists were unavailable or it was found that talking therapies in the secondary mental health sector was not appropriate. This led to a series of meetings between

stepped care project leaders and RAMHS stakeholders involved in referrals to therapy. These meetings enabled information regarding the stepped care model, including assessment for therapy and the evidenced based therapies available to be discussed. Feedback from staff attending these trainings was positive regarding both the stepped care model and the support available for clients.

Outcome measurement return

A significant difficulty found during the study was the limited amount of returned information. This was seen in the SRS, ORS and WHOQOL-BREF data returned by therapists. While the WHOQOL-BREF was used solely for the purposes of evaluating the implementation of stepped care, the SRS and ORS were both intended to form part of the stepped care model. The SRS and ORS were to be used to track session progress and provide feedback to therapists and also assist in the assessment of a clients fit for the therapy level to which they were allocated. Those reporting a low level of distress on the ORS, for example those scoring above 25 on the ORS, may not be appropriate for level 3 talking therapies in a secondary mental health service (Duncan & Sparks, 2010).

There may have been some confusion over the use of the SRS and ORS client feedback forms. The SRS and ORS were to be used by therapists primarily as a therapeutic tool, and secondarily to provide supporting outcome and alliance information during 8 week client review meetings as was suggested in the proposed stepped care model. The role of the SRS and ORS were not intended to be solely for data collection or for the purpose of evaluating stepped care. Confusion over the intended use of the SRS and ORS may provide a rationale for their limited use during the course of the study. The feedback, received through

management teams from therapists regarding the use of the SRS and ORS included, being "self conscious" about using them, too time consuming (to both complete and graph), too invasive and that their clients did not like them . While further exploration of difficulties with therapists may provide greater understanding of the reasons behind low completion of the SRS and ORS, it was unfortunately beyond the scope of this project.

Due to low initial returns of the SRS, ORS and WHOQOL-BREF from the RAMHS Whangaparoa research site, Table 2, Rodney satellite services in Warkworth (Tohu Wairua) and Helensville were added to the pilot on the 1st of February 2011. To increase numbers of individuals with SRS, ORS and WHOQOL-BREF information in the evaluation of stepped care, it was intended that these additional sites would introduce stepped care to their psychological therapy teams at the same time as the RAHMS Whangaparoa team at the end of February.

Table 2. SRS, ORS and WHOQOL-BREF returns per month

		2010			2011								
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
RAMHS	SRS ORS	8	9	14	33	45	35	34	24	28	37	32	30
	WHOQOL	5	3	6	2	8	4	4	0	3	3	0	0
NS1	SRS ORS	46	35	20	34	42	29	23	27	0	0	0	0
	WHOQOL	17	4	1	13	1	2	3	4	0	0	0	0

As can be seen in Table 2, initial SRS, ORS and WHOQOL-BREF returns for RAMHS were lower than NS1 returns, numbers of clients accessing therapy each month can be seen in Table 6 on page 53. Once satellite services were included in the study, returns increased and remained fairly consistent throughout the study. In comparison, NS1 returns were initially high, and higher ratios of clients entering the NS1 service were completing the

forms. However, at the end of June, therapists at NS1 reported that they would no longer be completing the forms. While further discussion into this would have provided useful information, attempts to arrange meetings with the team proved to be difficult prior to the conclusion of the study.

All SRS, ORS and WHOQOL information received from therapists was for individuals accessing face-to-face therapy; client information for group feedback from groups was not received. While one therapist offering group therapy reported using the PHQ9 pre- and post-group, this information was unavailable at the time of writing. While the SRS and ORS forms are available for groups (Duncan & Sparks, 2010), these were not used by group facilitators, as it was decided in the initial months of the evaluation that introducing these for groups would involve further challenges for therapists. As such no client outcome evaluation information was available for group participants.

Some confusion was raised by therapists as to when SRS and ORS measures were to be used. The therapists' role in the WDHB mental health service is both to offer therapy and care co-ordination. Some NS1 therapists reported using the SRS and ORS at both care co-ordination and therapeutic contacts, while others reported using them only at therapeutic contacts. There remains some confusion as to how a given contact is recorded electronically, this is discussed later in this section. While co-ordinating care may primarily be co-ordinating client needs, liaising with external agencies and supporting clients to access appropriate services, any face-to-face contact with clients by a therapist trained in therapeutic models can also arguably be deemed as therapeutic. There remains a difficulty in differentiating between formal talking therapy sessions and the use of talking therapy skills in care co-ordination

roles. For the purposes of data collection and electronically recording contacts, this may require further clarification in the future. This may cause further confusion in the future as other clinicians, trained in solution focused therapy, start offering level 2 therapies. While important, this was beyond the scope of this study.

HoNOS

As the stepped care model had not yet been introduced, grouping HoNOS data into pre- and post-stepped care implementation was not possible. While it was initially suggested that valid entry and exit HoNOS would be available for all clients accessing therapy at both sites, this was not found to be the case. When the HoNOS data for talking therapy clients for the period between the 1st of November 2010 and the 31st of October 2011 was received from the WDHB data warehouse, invalid HoNOS questionnaires removed (those scoring a 9, unknown information, for more than 3 questions), which left 27 clients (from a possible 253) that were found to have more than one valid HoNOS for RAMHS. When these 27 were sorted by the date of their first HoNOS, the data fit into the months of May, June and July; this meant that there was insufficient information over a long enough period to explore changes in HoNOS scores over the duration of the study.

Similarly for NS1, there were 32 from a possible 104 clients for which there was more than one valid HoNOS completed. While these were spread over the months of April, May, June, July, August and September, without a similar data set from RAMHS, comparisons could not be made. As a consequence HoNOS data was unable to be explored for changes over the duration of the study, for example an increase in HoNOS score at RAMHS and not at NS1 over the duration of the study may indicate that stepped care was

increasing access to therapy for moderate to severe clients. Similarly, it was hoped that stepped care would increase the number of therapists reporting significant reductions in clients HoNOS scores and decrease the amount of time in which this happened. As such, the HoNOS data was used to compare entry HoNOS scores and the change in HoNOS scores at RAMHS and NS1. Item response ratios for HoNOS scores at both sites can be seen in Table 14, and the mean, range and average change by month seen in Table 15 on page 101 in Appendix 2.

As the use of the HoNOS is mandatory for all clients, and anecdotally regularly completed, the reason/s HoNOS information was unavailable for all clients accessing therapy in the WDHB mental health service is unknown. Further exploration of this, while valuable in understanding how HoNOS information is collected and distributed back to services and therapists, was beyond the scope of this thesis. The available HoNOS data was explored for any differences in earliest HoNOS between RAMHS and NS1 and the change recorded between earliest and latest HoNOS in each service.

HCC data entry fields

Data was received from the HCC data warehouse for all contacts at both RAMHS and NS1 for the period between the 1st of November 2010 and the 31st of October 2011. During the initial exploration of HCC data, several barriers to evaluating the proposed model of stepped care were found. It was initially hoped that the field reporting the *team* in which the contact took place would enable from satellite teams (Tohu Wairua and Helensville) to be independently explored. However, as all contacts were recorded as "Rodney" the ability to

explore the RAMHS data by team was not possible with the time and scope restraints of this study.

Discussions with WDHB stepped care project leaders, prior to introducing the stepped care model, explored changing HCC client contact fields to enable the level and type of talking therapy provided to be recorded. Due to time and staffing restraints, full consultation was not possible, and HCC client contact options were not changed or updated. While it was hoped that HCC contact fields would enable the amount and type of talking therapies to be explored, a number of difficulties in doing this were found. The *type* of contact therapists were able to record a contact with the client could be chosen from the following 53 items:

Asian Support Care Co-ordination, Asian Support Follow up, Assessment, Assessment DAO, Associate Contact, Cancelled by Clinician, Cancelled by Consumer, Care Co-Ord family present, Care co-ord Prof & Fam, Care co-ord with Prof/GP, Care co-ordination, Case support, CBT, Clinical Assessment, Clinical Note, Court liaison, Crisis Assessment, Crisis Care Co-ordination, Crisis Contact with Family, Crisis First, Crisis Follow up, Cultural activity, Duty Contact, ECT, Family Meeting - Client not present, Family Meeting - Client present, Family therapy, Follow up, Group, HBT care Co ord Fam, HBT care Co ord GP/Prof, HBT care Co ordination, Home based Treatment, Malaga Care Co-ordination, Malaga Follow-up, Medication Recorded, Meds Admin, Neuro Psychological Assess, Not Specified, OT Assessment, PCL Assessment, PCL Care Co ord Family, PCL care Co ord GP/Prof, PCL care Co ordination, PCL contact, Prescription, Psychological Assessment, Respite, Review, Support needs assessment, Team Review, Therapy, Triage

This meant that there was some discussion over what would be classed as a talking therapy encounter for the purpose of the evaluation. Initially, the contact type of "therapy" would have been an obvious choice, however, as the RAMHS teams also have occupational

therapists on in the team, there exists the potential for these therapists to be recording client contacts as therapy. While "group" also seemed a choice that would denote the provision of therapy, it was reported that several non-formal talking therapy groups are held at the RAMHS sites. There was no provision within the WDHB HCC to record the type of group. Matching contact types with therapists was beyond the scope of this thesis, and as such all contacts recorded as "therapy" and "group" were included in the talking therapies evaluation. The type of group clients attended was also not recorded.

Therapists providing talking therapies appeared unaware of some existing HCC therapeutic contact options, for example, the option to record a therapy contact as CBT in HCC. It was noted by WDHB talking therapies personnel that a therapist (known to offer CBT) was logging all face-to-face contacts as "follow up" and none as "CBT". A full evaluation of what form of therapy was provided to each client over the course of the study could only have been achieved by collecting specific information from therapists regarding the type and level of therapy they delivered to a particular client on a given day and time; a method beyond the scope of this study.

For the purposes of evaluating the stepped care model for talking therapies in the WDHB mental health service therapeutic data was grouped into two categories; face-to-face therapy and group. After discussion with stepped care project leaders, it was decided that the contact types of CBT, family therapy, therapy and psychological assessment would be grouped together under face-to-face therapy and be representative of level 3 talking therapies. Group contacts would be representative of level 2 talking therapies.

The HCC field of *activity* did not help clarify the type of encounter. The 'type of activity' therapists recorded for their time client was chosen from the following 22 fields:

Cancelled by Client, Cancelled by Clinician, Clinical Note, Crisis Respite, Crisis Respite (awaiting IP bed), DAO, DAO/Police Intervention, DNA, ECT, Face to Face, Face to Face Client Present, Face to Face Family Present, Group, Letter/Fax/Email, Med Run, MHA, Not Specified, Phone, Planned Respite, Team Review, Text Message, Written Letter Fax Email

Data for clients in the categories chosen (therapy, group, CBT, family therapy and psychological assessment), were also recorded in the activity categories of: 'face to face', 'face to face client present', 'face to face family present' or 'group' were used to sort and filter the data. It is worth noting that as "group" is in both contact and activity field, and as such can be in recorded a number different combinations. The activity field was also used to filter contacts in which the client cancelled or did not attend (DNA) an arranged face-to-face or group session. Client cancellations and DNA's were also used to evaluate any changes to client satisfaction with treatment over the course of the study, however this was not part of the original evaluation design.

The field in which the length of contact was recorded; *contact duration,* was to be used to explore any changes to the amount of time clients spent in talking therapies and any changes which may be due to the introduction of stepped care. Early exploration of the contact data revealed therapy sessions had a recorded duration ranging from 10 minutes to over 2,400 minutes. In addition, within all contact types; entries were found reporting contacts of over 25,000 minutes. These anomalies had a great potential to skew data, a therapeutic encounter of over 2,000 minutes was over 20% of the total therapeutic contact time for some months at either the RAMHS or NS1 sites. Comparing the length of

42

therapeutic encounters between NS1 and RAMHS teams, exploring and correlations between a clients' duration with the service and their time spent in therapy with any confidence was not possible with this data without filtering and, wherever possible, correcting incorrect entries, an exercise beyond the time restraints of this thesis.

HCC data entry fields and options meant that evaluating the stepped care model by type of therapy offered and length of time in types of therapy as proposed in the research design was not possible. Therefore evaluating talking therapy provision in the WDHB mental health service, and the evaluation of the stepped care model focused on the number of talking therapies contacts in each area, face-to-face and group, for the NS1 and RAMHS teams.

Training

Training offered in solution focused therapy to all clinicians and therapists in the WDHB mental health service, those with no prior training in level 2 talking therapies were prioritised. There were a large number of individuals who undertook this training and this was hoped to increase capacity of therapists offering talking therapy at level 2. However this did not happen, clinicians reported number of reasons for not using the skills learnt in the training. These reasons included a lack of confidence in their abilities and difficulties accessing support and supervision. It is worth noting that if more therapists had been using solution focused therapy, without the ability to record contacts as solution focused therapy or level 2 therapies, there would have been little ability to track increased access attributed to the training.

Start date

Discussions with the RAMHS management team over the study period over the form stepped care implemented at RAMHS took, and addressing the barriers mentioned earlier, meant that introduction of the stepped care model was delayed several times. The initial proposed implementation date of the 1st February 2011 was delayed monthly until late April. At that point, an "official" stepped care implementation date of the 1st May was set, and emailed to RAMHS teams. However, discussions with the RAMHS management team at the end of the data collection period suggested that even at this stage, the model as one fitting the stepped care guidelines, had not yet been fully adopted. While there were specific elements in use that could be identified as stepped care by the end of the study, these were introduced incrementally over the course of the study. The provision of psychological therapies bore a closer resemblance to stepped care at the end of the study, than that provided at the start, however, neither the evaluation or method in which talking therapies were provided at the end of the study were in the form proposed. This meant that evaluating the data as originally proposed, with a prospective cohort study and experimental case control, would no longer provide meaningful data.

Figure 6 is the diagrammatic view of the proposed stepped care pathway presented earlier in the thesis. The different phases of the stepped care pathway have been added and numbered to enable a reference for comments.
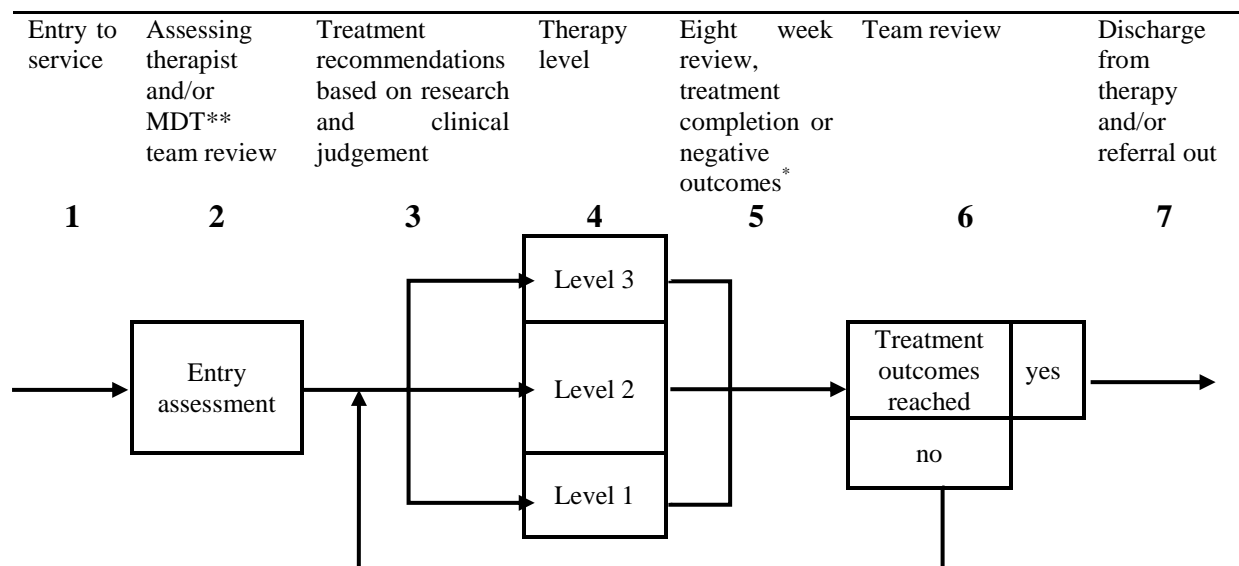
Entry to service	Assessing therapist and/or MDT** team review	Treatment recommendations based on research and clinical judgement	Therapy level	Eight week review, treatment completion or negative outcomes*	Team review	Discharge from therapy and/or referral out
1	2	3	4	5	6	7

Entry assessment → Level 3 / Level 2 / Level 1 → Treatment outcomes reached — yes → / no

* Negative outcomes may include therapeutic ruptures or an increase in risk factors, these may reported by those involved in the individuals care or identified from the SRS/ORS.
** Multi disciplinary team.

Figure 6. Suggested RAMHS stepped care pathway

- Phase 1, those referring clients to talking therapies have an increased awareness of the referral pathway, awareness has been increased of what talking therapies are available for clients and discussions have been held regarding client appropriateness for talking therapy.

- Phase 2; while most clients are discussed during a MDT team review for appropriateness for therapy, this does not happen for some group clients and they were referred directly by the assessing therapist to a level 2 group.

- Phase 3; discussions regarding appropriateness of talking therapies available in the service, and match for client is taking place.

- Phase 4, while level 2 and level 3 clients (those assessed as appropriate for face-to-face therapy or group are referred as appropriate, this is not happening for level 1 clients. Current RAMHS practice is to "observe" the clients for 28 days until they are re-assessed.

- Phase 5; this has happened occasionally, there remains some discussion over when this takes place (8 weeks or 91 days). Currently no reported use of client outcome measurement (ORS/SRS) information at reviews.

As there was no identifiable pre- or post-introduction phase, it was suggested that the data would be best evaluated as a continuous set. Effects of implementing stepped care were sought both between the first six month as well as over the duration of the study. The use of a variety of statistical tests including correlation, mean testing and linear regression were used to explore effects of the introduction of stepped care and compare these results, wherever possible, with information over the same period for NS1.

Length of stay with WDHB mental health service

The duration many clients spent with the WDHB mental health service, meant that exploring the effects of implementing the stepped care model for psychological therapies was not possible within the timeframe proposed. Whilst it was expected that a number of clients would have a long duration with the service (especially with complex or co-morbid problems). What was unforeseen was that many of the clients (approx 50%) that were with the service at the start of the study remained engaged with the service at the end of the study. In addition approximately 46% of new clients accessing the service during the study period also remained engaged with the service at the end of the study. This meant that, over the study duration, close to 50% did not complete their treatment. As stepped care aims to address situations where clients are making little progress or getting worse. Evaluating the effect of stepped care on duration with service is best done once client allocation and review

systems, as suggested in the proposed stepped care model, are implemented and regularly carried out.

Returned Session rating and Outcome rating scales and WHOQOL-BREF

As forms were completed manually by both clients and therapists there were some anomalies in the returned data. Some forms included client information whilst others had insufficient identifying information on them and in some cases no identifying information at all. Therapist handwriting mean that, on occasions, identifying numbers were difficult to read. The way in which clients marked the SRS and ORS also created complications for data entry, particularly when SRS and ORS were marked with 'ticks', crosses or circles instead of a line intersecting the scale.

The SRS and ORS scales are completed manually by clients', clients marked themselves on a 10cm line with a pen or pencil on sheets provided by the therapist. Due to differences between photocopiers at the various WDHB sites as well as the type of form therapists used, some SRS and ORS lines did not measure 10cm. This had the potential to effect the scores for that client and for the team overall norms. For example when lines were less than 10cm no matter how a line was measured with a 10cm rule it would be different from that returned by clients using a 10cm scale. Wherever this was found a 10cm ruler was photocopied and reduced in size until the measuring scale fit the length of the line.

SRS and ORS information was collected monthly from the relevant sites and scores measured by the researcher. To enable consistency when recording client SRS and ORS scores, all forms were measured the same way. Where clients used a circle to denote their

response, a line was drawn horizontally through the circle and this measured, the point where an "X" crossed was used as the measurement point and the point in which a "tick" crossed the line used as the measurement point. On occasions where a "tick" crossed the line at more than one point, a line was drawn from the bottom of the tick and the point at which this intersected the line used as the measurement point. Consequently this added to the time taken to measure and record SRS and ORS scores. While these difficulties were discussed during meetings, therapist non-attendance at meetings meant this information was not disseminated or discussed.

The NHI numbers on returned SRS, ORS and WHOQOL-BREF forms were checked against WDHB HCC client data and the two numbers matched. Where the NHI number from SRS, ORS and WHOQOL returns did not match HCC NHI numbers recorded for clients receiving therapy, HCC records were searched for clients with therapy contacts whose NHI numbers and contact dates most closely matched those on the forms. In all the cases where SRS, ORS and WHOQOL NHI numbers did not initially match, a corresponding HCC NHI number was found.

Where client information was recorded on the returned forms, this information was erased and NHI number recorded on the form by WDHB mental health service clinical staff. Where there was insufficient information to identify clients on the form, the data was discarded. Similarly, if there was no date, the form was discarded. The SRS and ORS forms collected from therapists were all in their original form (as opposed to being photocopied), this may suggest the SRS and ORS were not being used by therapists in review sessions or with clients.

Therapist survey and focus groups

As the stepped care model had no pre- or post-stage, the proposed pre and post implementation focus groups for therapist were not carried out. In addition, the difficulties encountered with low therapist attendance at meetings, may have meant feedback gathered would not necessarily reflect the opinions of all team members or provide a balanced or meaningful perspective on the study. The survey was to be generated from themes from the arising from the focus group in order that it might be more meaningful and relevant to the therapists. As there were no focus groups it was decided by the researcher and WDHB stepped care leaders not to carry it out. A second independent study (by an AUT postgraduate researcher, unconnected to the WDHB mental health service or this researcher) was started (in early March) using qualitative methods to interview therapists at the Rodney sites and gathered their experience of the introduction of stepped care (Vinsen, 2011).

In summary, as the process of discussion and exploration continued for the duration of the study; the proposed model for delivering talking therapies by the stepped care model had not been fully implemented by the end of the study. While this could have been seen as a failure of both stepped care model and the evaluation study design; arguably it is rather a justification of using programme evaluation guidelines.

In line with the programme evaluation aims and guidelines; barriers are explored with stakeholders during programme implementation and solutions collaboratively discussed and implemented. This process and the unforeseen barriers to data collection meant that the stepped care model could not be evaluated as originally proposed. For that reason, changes

were made to the study design and to the methods used to evaluate the effectiveness of the stepped care model. Table 3 offers an abbreviated version of the original proposed study measures and the barriers that were discovered during the course of the evaluation.

Table 3. Study measure and barriers

Measures	Barriers/limitations
SRS ORS	Not completed for all clients NS1 therapists stopped offering forms to clients Lack of identifying information on some forms Different scoring methods used by clients on forms
WHOQOL-BREF	Low numbers returned, few therapists offering for second time or after 3 months NS1 therapists did not offer to new clients after November
Disorder specific measures	Unknown what measures are being used, across service Where measures were used, information was unavailable or difficult to access
HoNOS	Incomplete datasets for clients
Focus groups	Unable to organise times to meet with majority of therapists Limited therapist attendance at regular project meetings No pre or post stepped care phase
Therapist survey and feedback	Reliant on focus group to generate themes, see above
Waitlist times	Date of allocation to therapy not recorded, unable to ascertain when or if clients were referred to therapy
Clients numbers accessing therapeutic services	Therapy contacts not recorded as such, numbers may be higher.
Length of contact with WDHB mental health service	Study duration may be too short
Cost of treatment per client	Study duration may be too short Unable to identify specific therapies
Time spent in different levels and types of therapies	Unable to identify specific therapies Not all therapists offering available therapy types (CBT) recording it as such Inaccuracies in what is recorded as a therapeutic session
Numbers of clients accessing specific therapies	Unable to identify specific therapies Inaccuracies identified in HCC recording of therapies

Data analysis

While stepped care had not been fully implemented by the end of the study, client numbers and therapeutic contacts were divided into 6-month blocks and explored for significant differences. This was done for two reasons; the 1st of May had been given to RAMHS therapists as the "official start" and as stepped care had been introduced slowly. It was felt differences in mean numbers may be seen when comparing the first 6 months, 1st November 2010 to 30th April 2011 (P1), with the second 6 months, 1st of May 2011 to the 31st of October 2011 (P2) of the study. Independent samples t-tests were carried out where data was not related between samples, for example between RAMHS and NS1, and paired samples t-tests carried out for repeated measures data, for example between the earliest and latest ORS scores for clients. Independent t-tests were also used to analyse data for differences between the first 6 months and the last 6 months. Where sufficient data over the duration of the evaluation was available, evaluated as a continuous set with linear regression.

As can be seen in Table 4, numbers accessing the service, total client contacts and number of therapists available are similar for Rodney Adult Mental Health Services (RAMHS) and for North Shore Team one (NS1) over the study period.

Table 4. Experimental numbers between 01/10/2010 and 31/10/2011

	New service referrals	Total number of clients accessing service	Total client contacts
RAMHS	1013	1152	42265
NS1	1012	1156	42863

Table 5, shows the numbers of new referral numbers, number of clients accessing the service and the total number of contacts for each service, again there appear to be number of similarities between the services.

Table 5. Number of contacts, referrals and clients per month

Month	New service referrals		Number of clients accessing service		Total client contacts	
	RAMHS	NS1	RAMHS	NS1	RAMHS	NS1
November	83	96	387	446	3464	3872
December	77	79	389	449	3401	3955
January	94	72	451	422	2977	3411
February	83	85	397	445	3361	3470
March	96	76	438	441	4232	3521
April	71	75	416	424	3471	3191
May	95	90	430	455	3950	3758
June	87	79	452	452	4065	3857
July	72	76	427	425	3733	3586
August	97	93	440	454	3985	3892
September	97	97	445	437	3866	3552
October	61	94	403	446	2862	3608

Independent means testing reported no significant difference between the means for new service referrals or the total number of contacts each month. The number of clients accessing the service at RAMHS (M = 422.91, SD = 23.86) was found to be significantly lower than the number accessing NS1 (M = 441.33, 11.82), t(22) = -2.396, P = 0.026.

As anecdotally, school holidays were reported having an effect on the service access and attendance; data gathered during these periods was indicated in tables (numbers in bold) and on graphs (holiday sections shaded). There was a school break from the 15th of April to the 2nd of May and from the 15th of July to the 1st of August. During October there were both school holidays, from the 7th of October to the 25th of October and (for New Zealand) a successful rugby world cup played in New Zealand between the 9th of August and the 23rd of October.

Access to therapy

The number of RAMHS clients recorded accessing talking therapies (therapy, family therapy CBT, group therapy or a psychological assessment) each month increased from 64 to 102 clients over the course of the study. The number of clients accessing therapy at NS1 decreased from 49 to 39 over the same period (Table 6). There was a total of 253 clients recorded as accessing talking therapies at RAMHS over the duration of the study and 104 recorded at NS1.

Table 6. Client numbers accessing therapy each month.

	2010		2011									
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
RAMHS	64	**60**	**48**	85	91	**75**	92	83	**86**	95	104	**102**
NS1	49	**38**	**29**	35	38	**42**	39	38	**24**	35	40	**39**
				P1						P2		

Holiday periods in bold.

An independent t-test carried out between the first 6 months of the study (P1) and the second 6 months (P2), found a significant increase in the number of individuals accessing therapy at RAMHS between P1 (M=70.5, SD= 16.18) and the number of individuals accessing therapy between during P2, (M= 93.67, SD= 8.4), t(10)= -0.311, p < 0.05. There was no significant difference t(10) = 0.723, p= 0.486 for the numbers of clients accessing therapy at NS1 between P1 and P2.

Linear regression of clients numbers each month at RAMHS indicated that the relationship between the increase in clients accessing talking therapies and time was significant; β = .834, p < 0.01. In comparison, there was no significant relationship found between the number of clients accessing therapy and time at NS1 β = -0.218, p = 0.496.

The percentage of clients accessing therapy each month for both sites was calculated by dividing the number of talking therapy clients recored each month by the total number of clients accessing that service for that month. This was plotted in Figure 7. As this depicts talking therapy clients as a percentage of the total number of clients accessing the service, it would tend to indicate that the increase seen at RAMHS was not due to an increase in total client numbers. There was a slight decrease in the percentage of clients accessing therapy at NS1 over the same duration, however an independant t-test indicated this was not significant t(10) = -0.112 ,p = 0.913.
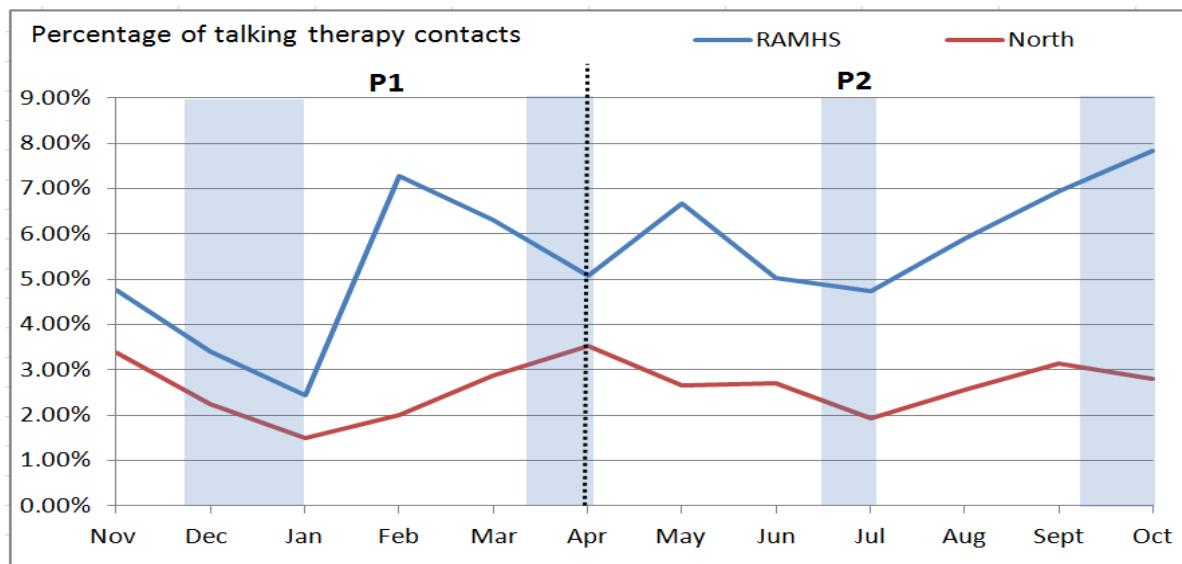
Figure 7. Clients accessing therapy as a percentage of total clients accessing service.
Shaded sections indicate holiday periods.

Linear regression of the percentage of RAMHS contacts that were talking therapy contacts, over the duration of the study, indicated that the relationship between time and the increase was significant β = .753, p < 0.01. There was no significance found between the talking therapy clients and time at NS1 β = .153, p = 0.636.

Therapeutic contacts

There was an increase in the number of talking therapy contacts reported at RAMHS, from 165 contacts in November 2010, to 224 contacts in October 2011. The number of talking therapy contacts at NS1 decreased from 131 to 101 over the same period (Table 7).

Table 7. Number of therapeutic contacts each month, holiday periods in bold.

	2010		2011									
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
Rodney	165	**116**	**73**	245	267	**176**	264	204	**177**	235	268	224
NS1	131	**89**	**51**	70	101	**113**	100	104	**69**	100	112	101
			P1						P2			

While the number of therapeutic contacts increased over the duration of the study at RAMHS, independent t-tests reported no significant difference between P1 (M = 173.67, SD = 73.95) and P2 (M =228.67, SD = 35.03), t(10) = -1.647, p = 0.131. There was also no significant difference found between P1 (M = 92.50, SD = 29.03) and P2 (M =97.67, SD = 14.76), t(10) = -0.389, p = 0.706 at NS1. Linear regression of the number of client contacts at both services over the duration of the study also indicated no significant relationship between time and the increase in talking therapy contacts for RAMHS β = .549, p = 0.064 or NS1 β = .120, p = 0.710 .

Exploring the number of talking therapy contacts as a percentage of total contacts, calculated by dividing the number of talking therapy contacts by the total number of contacts for that month and shown in Figure 8, the relationship between time and the increase in talking therapy contacts was found to be significant β = .589, p < 0.05 at RAMHS; there was no significant relationship found between time and the number percentage of therapeutic contacts β = -.237, p = 0.457 at NS1.
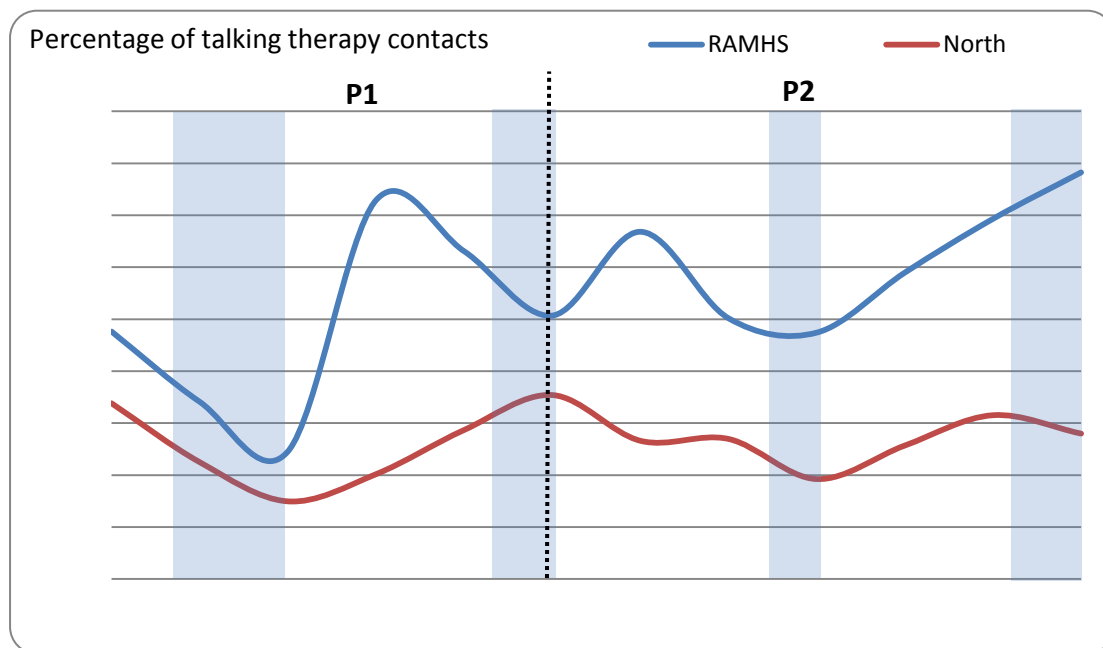
Figure 8. Talking therapy contacts as a percentage of total contacts
Shaded sections indicate holiday periods.

Level 2 and level 3 therapy

There was an increase in the number of contacts recorded in the face-to-face categories and in numbers of individuals accessing face-to-face therapy. There was also an increase in group contacts and in the number of individuals accessing groups; this can be seen in Table 8.

Table 8. Number of therapeutic contacts and number of clients each month by type for RAMHS.

| | | 2010 | | 2011 | | | | | | | | | |
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
Group	contacts	107	**67**	**31**	156	147	**81**	172	119	**99**	121	170	**135**
	clients	39	**27**	**29**	47	53	**46**	46	40	**37**	52	51	**48**
Face-to-face	contacts	58	**49**	**42**	89	120	**95**	92	85	**78**	114	98	**89**
	clients	25	**33**	**19**	38	38	**29**	46	43	**49**	43	53	**54**
				P1				P2					

Holiday periods in bold.

Analysis of the contacts and numbers of clients over time, found that there was a significant relationship between time and the number of individuals accessing face-to-face talking therapies $\beta = 0.590$, $p < 0.05$, as well between time and the number of group contacts $\beta = 0.863$, $p < 0.001$ at RAMHS. The relationship between the number of face-to-face contacts and time, while close to criteria for significance ($p = 0.05$), did not meet the cut off $\beta = 0.566$, $p = 0.055$. There was no significant relationship found between the number of group contacts and time $\beta = 0.467$, $p = 0.126$.
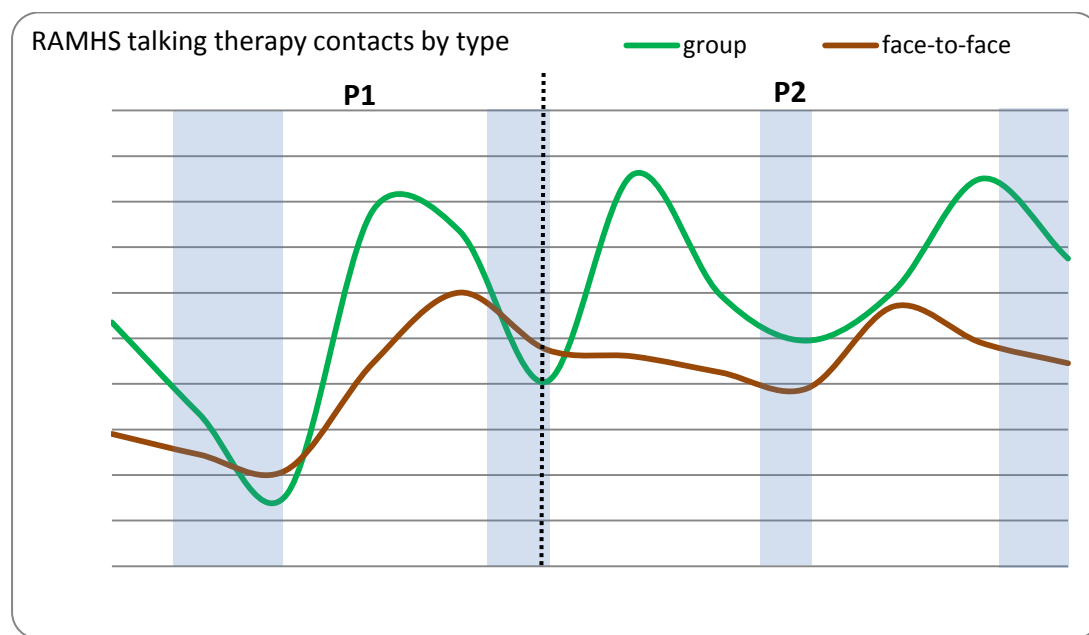

Figure 9. Number of clients accessing talking therapies by type.
Shaded sections indicate holiday periods.

The reasons for the relationship between the number of group and face-to-face contacts and time not meeting criteria for significance is unknown, however, as displayed in Figure 9, the school holiday periods may have had an effect on data analysis.

Change in presenting problems

When changing the delivery of mental health support, assessing and monitoring any effect this has to clients presenting problems is important in order to ascertain its success, or failure. Outcome rating scales (ORS), HoNOS and the WHOQOL-BREF were used to collect information about the clients presenting problems. The HoNOS reports the therapist's assessment of the clients presenting problems, the clients rating of their level of distress and problematic areas in their life were measured by the ORS and WHOQOL-BREF. While a common set of disorder specific measures, (for depression anxiety etc), was hoped to be implemented as part of stepped care; this had not taken place by the end of the data collection phase.

Health of the Nation Outcome Scale (HoNOS)

What could be seen from the available HoNOS data was that therapists from both RAMHS HoNOS (M= 11.2, SD= 7.12) and NS1 HoNOS (M= 12, SD= 5.2) were reporting initial HoNOS scores that were not significantly different; t(57) = -0.484, p=0.630. The mean change in HoNOS scores at each site (calculated by subtracting the latest score for the earliest score) while higher at RAMHS (M= 3.26, SD = 8.51) than NS1 (M= 2.97, SD 5.22), was not found to be significantly different t(57)= 0.161, P= 0.873. This would suggest that therapists at both sites are reporting similar presentations and levels of change for clients on the HoNOS over their duration with WDHB mental health service.

The change between the means of the first recorded HoNOS scores (M = 12, SD = 5.20) and last score (M = 9.03, SD = 6.01), at NS1 was found to be significant t(62) = 2.114, P = 0.039. Despite the mean decrease in scores between first recorded score (M= 11.22, SD =

7.13) and the last recorded score (M = 7.96, SD = 5.13) appearing similar at RAMHS, this was found to be significant t(52) = 1.929, P = 0.059. This suggests that clinicians at NS1 reported significant changes in HoNOS scores during an individual's access to talking therapy, while RAMHS clinicians did not reported change that was significant.

WHOQOL-BREF

While the intention of the study was to offer the WHOQOL-BREF questionnaire every three months as is mandated with the HoNOS, this was not achieved at either site. Completed WHOQOL-BREF questionnaires were returned for 28 from a possible 253 clients from RAMHS and 28 from a possible 104 clients from NS1. Of these, there were 12 clients from NS1 and 10 clients RAMHS for which more than one WHOQOL-BREF was administered. The WHOQOL-BREF response rates for RAMHS and NS1 and changes in scores can be seen in Table 12 and Table 13 on page 99 in Appendix 1. The mean of all first WHOQOL-BREF scores was calculated for each domain and transformed to a 0-100 scale for ease of comparison between domains.

Paired t-tests reported that there were significant differences between earliest and latest WHOQOL-BREF domains for the physical and social domains at RAMHS. There were no significant differences reported between earliest and latest scores for each domain at NS1 (Table 9).

Table 9. Change between first and last WHOQOL-BREF domain scores.

Location		physical		psychological		social		environmental	
		mean	*p*	mean	*p*	mean	*p*	mean	*p*
RAMHS	first	48.57	0.023*	44.17	0.297	40.83	0.009**	57.50	0.336
	latest	57.50		48.75		56.25		61.25	
NS1	first	69.05	0.815	47.22	0.104	59.03	0.352	68.48	0.961
	latest	68.15		54.69		64.23		68.61	

* P < 0.05   ** p < 0.01

Mean initial WHOQOL-BREF domain scores (including scores for which the WHOQOL-BREF was not re-administered) were all lower at RAMHS. Independent means testing on the WHOQOL-BREF domains indicated that three of the four domains (physical, psychological and environmental) were significantly lower at RAMHS than NS1 (Table 10). The mean change in WHOQOL-BREF domain scores at each site (calculated by subtracting the latest score for the earliest score) for the physical domains was found to be significant (Table 10).

Table 10. Mean initial WHOQOL-BREF domain scores and mean change between entry and final scores

Location		physical		psychological		social		environmental	
		mean	*p*	mean	*p*	mean	*p*	mean	*p*
RAMHS	entry	47.96	0.000+	38.47	0.024*	42.26	0.069	57.59	0.003**
NS1	entry	63.36		50.29		54.89		68.43	
RAMHS	change	8.63	0.027*	5.73	0.871	15.97	0.055	3.78	0.301
NS1	change	-2.50		6.67		2.50		-0.63	
	poor health#	45.7	CI 40.9–50.5	55.5	CI 51.5-59.5	58.7	CI 53.4-64	65.6	CI 62.4-68.8

* p < 0.05   ** p < 0.01   + p < 0.001

taken from (Hawthorne, Herrman, & Murphy, 2006)

The mean initial WHOQOL-BREF domain scores from both RAMHS and NS1 talking therapies clients show that the domain in which they reported the poorest quality of life was the psychological domain. The mean scores for all domains, in both locations fall below the mean population norms for adults from an Australian preliminary study of WHOQOL-BREF. Almost all domains (except the physical domain at NS1) fit within or

below the mean ranges for those reporting poor health in the Australian study (see Table 10). The mean physical domain score for NS1 fit within the 95% CI range (59.3-63.7) for those reporting fair health (Hawthorne et al., 2006). This suggests that, on average, appropriate clients are receiving talking therapies.

Outcome Rating Scale (ORS)

The proposed stepped care evaluation, suggested the ORS was to be offered to all clients accessing talking therapies at both sites. The primary use of the ORS was for therapists to monitor the client reported change and to use this information during treatment reviews. It was hoped that the ORS information would be received from all clients accessing talking therapies (including group) at both sites. However, this was not carried out, there was ORS information received for 49 of a possible 253 clients at RAMHS and 26 from a possible 104 from NS1, there was no ORS information collected from group participants. NS1 therapists stopped offering the ORS to clients after March and stopped offering and returning ORS forms for all clients after the end of June. There was ORS information from more than one therapeutic session collected for 39 of the RAMHS clients and 29 of the NS1 clients. There was a total of 258 ORS and SRS scores received from clients at NS1, and a total of 332 received from RAMHS. Mean entry ORS scores by month and the mean change in ORS score by month can be seen in Table 16 on page 102 of Appendix 3.

Paired samples t-tests reported that the change in ORS scores between earliest ORS score at RAMHS (M = 16.07, SD = 8.74) and the latest RAMHS ORS score (M = 21.67, SD = 11.17), was significant t(37)= -3.687, p < 0.01. Similarly at NS1, the difference between the earliest ORS (M = 23.07, SD = 7.88) and latest (M = 28.10, SD = 9.45), was also

significant, t(24)= -2.573, p < 0.05. This suggests the average change clients are reporting in the ORS domains is significant.

Independent samples t-tests reported that the mean initial ORS for RAMHS (M = 16.09, SD = 8.63) was significantly lower than the initial NS1 ORS (M = 23.37, SD = 8.48), t(66)= 3.464, p ≤ 0.001. This suggests that clients accessing the service at RAMHS rated themselves functioning significantly lower on the ORS than those at NS1. Independent means testing of initial RAMHS ORS scores of the first 6 months of the study, P1 (M= 16.38, SD = 8.76), found that while the mean for the last 6 months, P2 (M = 15.51, SD = 8.68), was lower, this was not significant t(37)= 0.293, p = 0.771).

Independent means testing between the mean initial ORS scores and linear regression analysis of the initial scores indicated no significant relationship between P1 and P2 and the ORS scores, or between time and entry ORS scores.

Guidelines for the ORS suggest that a change of more than 5 in the ORS score is significant (Duncan & American Psychological Association, 2010; Duncan & Sparks, 2010; S.D. Miller et al., 2005). A improvement in ORS scores of five or greater was was achieved in 19 of the 39 completed ORS from RAMHS and 14 of the 29 completed ORS from NS1. This means that over half of clients at both RAMHS and NS1, recored change in functioning that was not significant or reported a worsening in the domains the ORS measures.

The results showed that increased duration spent with the service did not result in improved outcomes, the most significant decrease in ORS was seen in the client who had

accessed therapy over the longest period indicated by an arrow in Figure 10. The graph in Figure 10 shows the duration with the service (in days) plotted against the change in ORS scores (first ors score subtracted from last ors score).
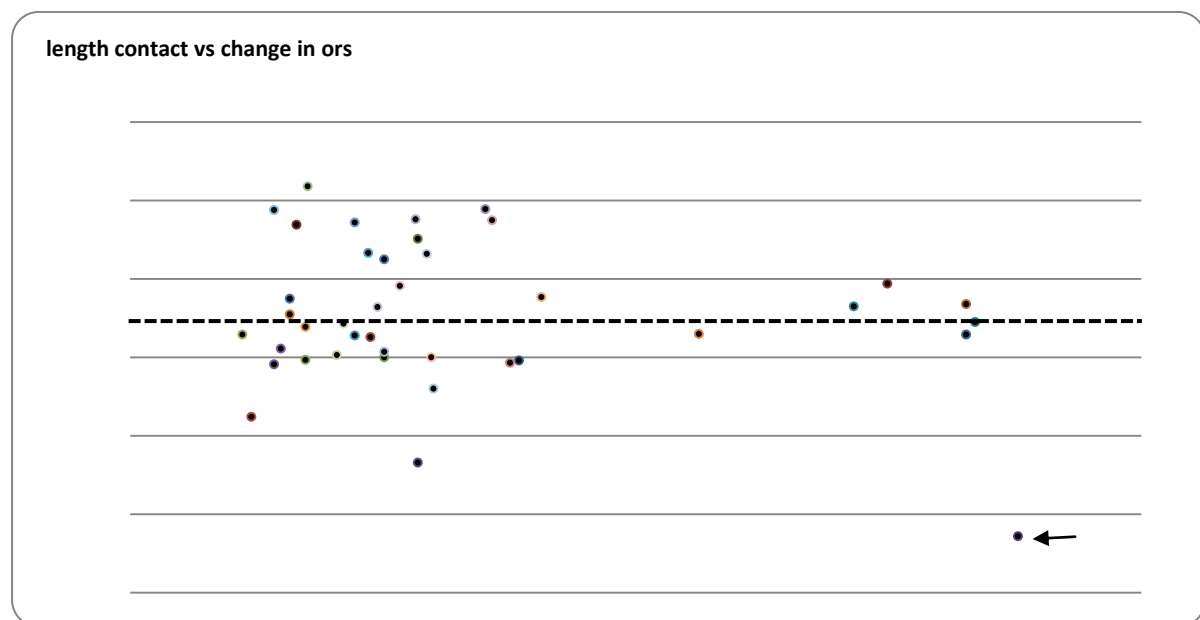
Figure 10. RAMHS ORS scores plotted against duration with service.
Dashed line indicates a score of 5.

Client satisfaction and therapeutic alliance

When making changes to mental healthcare provision, it is also important to explore the clients' experience of this. It is important that the stepped care model of mental healthcare provision in the secondary health sector does not negatively affect the clients' experience of talking therapies or of the WDHB mental health service. The Session Rating Scale (SRS), a measure of the therapeutic alliance, was to be offered to all clients accessing talking therapies at both sites. In addition, the number of clients cancelling or not attending talking therapy sessions would be explored over the duration of the study. Question 24 on the WHOQOL-BREF explores clients' satisfaction with their access to health services; this in combination

with the SRS data and numbers of clients' not attending or cancelling sessions was hoped to provide an accurate assessment of the client satisfaction over the duration of the evaluation. Similar information from NS1 would continue to provide comparative information.

Session Rating Scales (SRS).

The proposed stepped care evaluation, suggested the SRS be offered to all clients accessing talking therapies at both sites. The primary use of the SRS was for therapists to monitor and discuss with clients their experience of the therapeutic session, this information could also be used during treatment reviews. It was hoped that the information would be received from all clients accessing talking therapies (including group) at both sites. However this was not carried out, there was SRS information received for 49 of a possible 253 clients at RAMHS and 26 from a possible 104 from NS1, there was no SRS information collected from group participants. NS1 therapists stopped offering the SRS to new clients after March and stopped offering and returning SRS forms for all clients after the end of June. There was SRS information from more than one therapeutic session collected for 39 of the RAMHS clients and 29 of the NS1 clients.

Mean entry SRS scores by month and the mean change in SRS score by month can be seen in Table 17 on page 102 of appendix 3. The mean for all initial SRS scores from RAMHS (M = 34.02, SD = 5.64) was significantly lower than the mean for all initial NS1 SRS scores (M = 36.84, SD = 5.59), t(483)= -6.096, p < 0.001. This would suggest that , on average, clients at NS1 reported they were more satisfied with the therapeutic alliance, over the duration of therapy than those at RAMHS. Independent means testing of the first SRS reported that, while lower, there was no significant difference between the means of the first

RAMHS SRS (M = 34.9, SD = 5.2) and the means of the first NS1 SRS (M = 36.8, SD = 3.33), t(67)= - 1.638, p = 0.106. This suggests that clients were reporting similar scores for the first sessions.

While the entry SRS score for RAMHS increased between the first 6 months P1 (M = 34.88, SD = 5.67) and the second 6 months P2 (M = 35.2, SD = 4.12), this was not significant t(38)= -0.207 , p = 0.837. This suggests that the implementation of stepped care did not have a significant impact of the therapeutic alliance in the first session. When comparing means of all RAMHS SRS scores between P1 (M = 35.02, SD = 4.5) and P2 (M = 33.18, SD = 6.29) there was significant difference found t(296)=2.844, p < 0.01. This suggests that the overall therapeutic alliance was lower as stepped care was introduced.
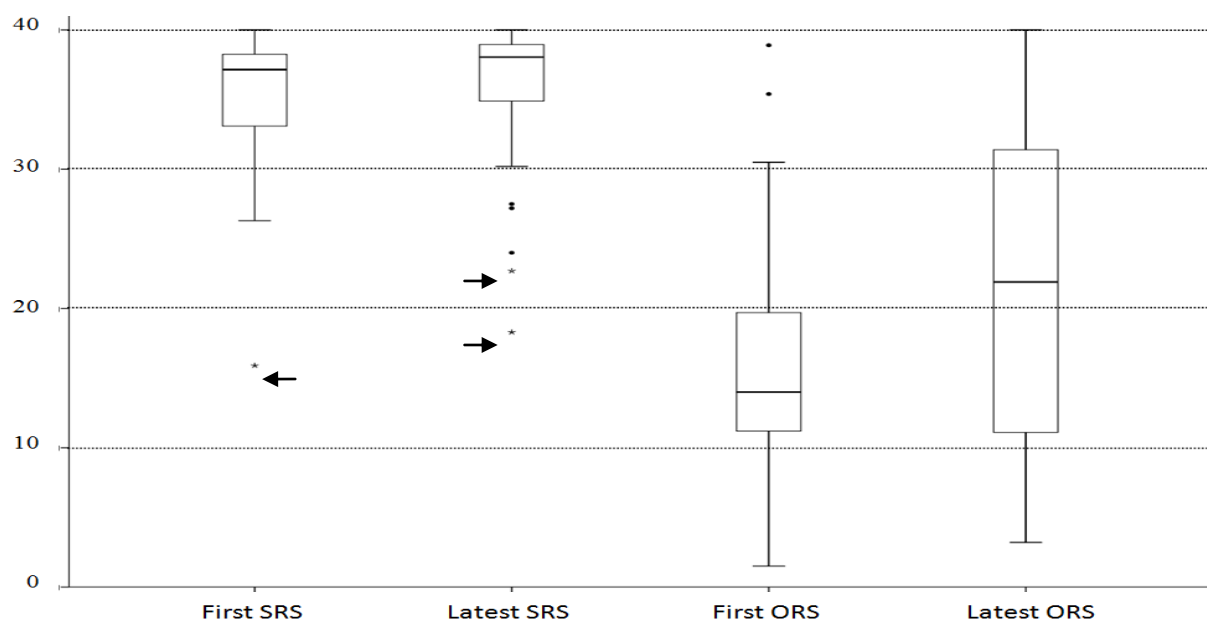
Arrows indicate asterisks denoting extreme outliers (more than three times interquartile range) for SRS scores. Remaining outliers (dots) indicate scores between 1.5 and 3 times the interquartile range.

Figure 11. Box and whisker plots for first and latest SRS and ORS scores.

Exploring completed client SRS and ORS graphs revealed a number for which there was a decrease over time in the SRS and ORS scores over the period in which data was

collected, two of these can be seen as extreme outliers in the box and whisker plot for the 'latest SRS' in Arrows indicate asterisks denoting extreme outliers (more than three times interquartile range) for SRS scores.

Remaining outliers (dots) indicate scores between 1.5 and 3 times the interquartile range.

Figure 11. For one of the clients, there were six review periods during the time SRS and ORS information was collected (shown in

Figure 12) and for the other client, four review periods. When these two SRS score sets were removed from the data, independent means testing of all SRS scores for P1 (M = 35.95, SD = 3.91) and P2 (M = 35.14, SD = 4.41) suggested no significant difference $t(248)=1.532$, $p = 0.127$ between the two periods. Previously the results, with these scores included, had shown that there was a significant decrease in the SRS mean in the last six month of the study (P2).
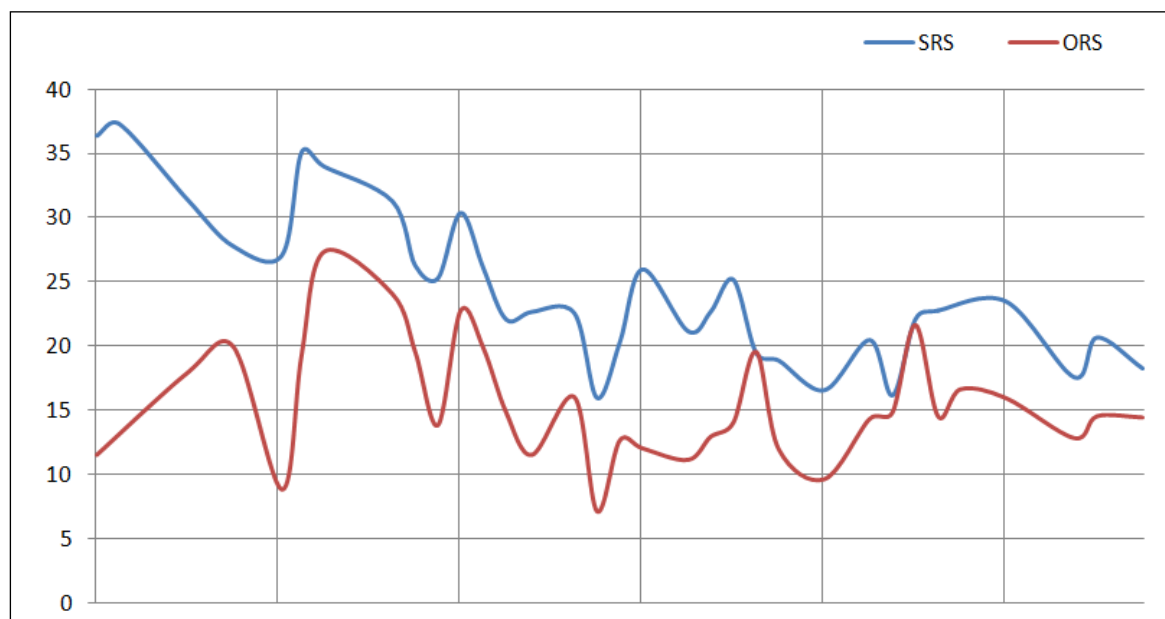
Dates have been removed (X axis) and lines smoothed increase confidentiality.
Vertical lines represent potential 8 week review periods.

Figure 12. Example SRS and ORS showing decline in SRS and ORS scores.

Session attendance

The numbers of individuals referred to groups or had a face-to-face talking therapy session booked, that *did not attend* (DNA) or cancelled their sessions increased over the duration of the study at RAMHS. The number of talking therapy contacts cancelled or that clients did not attend is shown (Table 11).

Table 11. Session cancellation and DNA

| | | 2010 | | 2011 | | | | | | | | | |
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
RAMHS	group	0	**0**	**0**	0	10	**8**	15	19	**5**	21	35	**53**
	1 to 1	20	**6**	**5**	1	12	**20**	4	4	**15**	10	6	**13**
NS1	group	0	**0**	**0**	0	0	**0**	0	0	**0**	0	0	**0**
	1 to 1	0	**1**	**1**	0	0	**1**	0	1	**0**	1	1	**1**
					P1				P2				

Holiday periods in bold.

As has already been shown, the number of talking therapy contacts and clients increased; as such the number of clients cancelling or DNA a session was calculated as a percentage of therapeutic contacts, this can be seen in .
As dissatisfied clients can cancel both group and/or face-to-face therapy sessions, it was decided that DNA and cancellation rates would be best explored by calculating this as a percentage of clients, seen in Shaded sections indicate holiday periods.
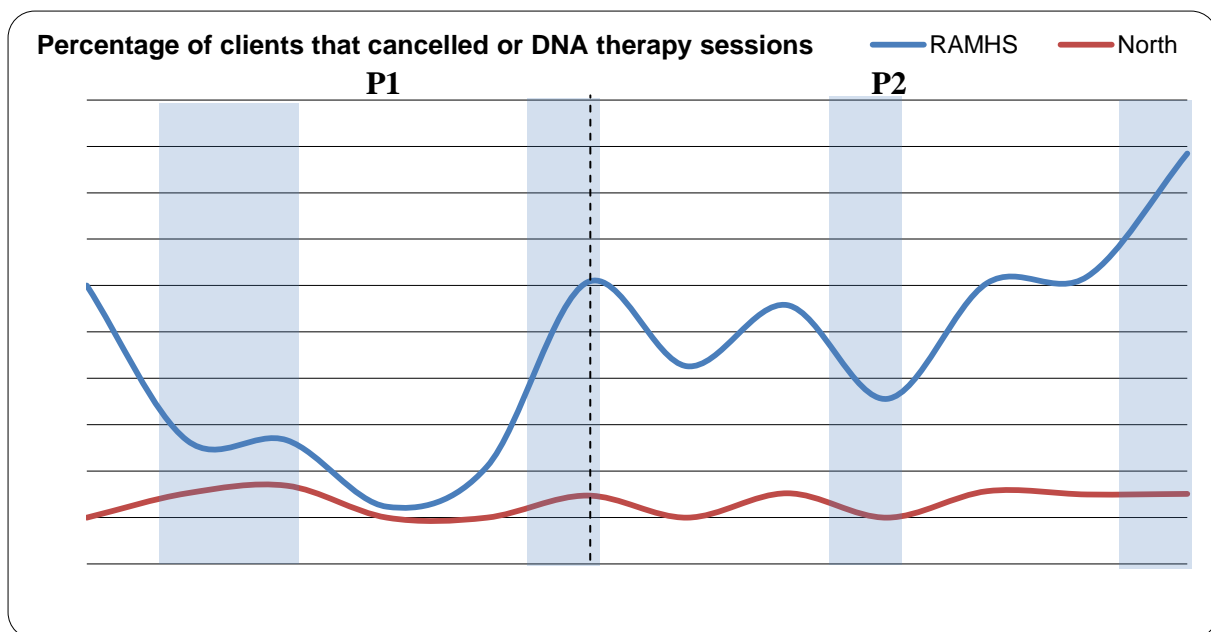
Figure 13.

Shaded sections indicate holiday periods.

Figure 13. Number clients cancelled or DNA sessions as a percentage of numbers attending talking therapy sessions.

As can be seen in Shaded sections indicate holiday periods.

Figure 13, the numbers of individuals not attending or cancelling sessions as a percentage of clients attending sessions, increased over the duration of the study. Independent means testing between the mean percentage in P1 (M = 12.28%, SD = 10.32%) and the mean cancellation percentage for P2 (M = 23.74%, SD = 9.19%) found that this difference was not significant t(10)= -2.031, p = 0.070. Liner regression found that relationship between time and percentage of clients cancelling or DNA sessions at RAMHS was significant β = 0.609, p < 0.05.

WHOQOL-BREF question 24

For all WHOQOL-BREF questionnaires returned, access to health services (question 24) appeared to indicate that the majority of those accessing health services in both RAMHS (M= 4.25, SD = 0.79), and NS1 (M= 4.38, SD = 0.97) were either satisfied or very satisfied with their access to health services. Paired samples t-tests of question 24 for WHOQOL-BREF questionnaires for clients for which it was administered more than once, reported that, while the mean score for RAMHS clients increased between the first administration (M = 4.2, SD = 0.79) and the last (M= 4.3, SD = 0.0.83), this was not significant t(9)= -0.429 , p= 0.0.678. Similarly, while the mean score at NS1 decreased between the first administration (M= 4.5, SD = 1.0) and the last (M= 4.25, SD = 0.96), this was not significant t(11)= 1.915, p = 0.082. Non-parametric related samples Wilcoxon signed ranks tests confirmed these results for both RAMHS (p = 0.655) and NS1 (p = 0.083).

Discussion

This study offers new information regarding the effects of implementing stepped care for mental health care provision and support for the use of outcome measurement. The research provides evidence supporting the introduction of stepped care three main areas: Increased client access to psychological talking therapies, improving client, tracking and reviewing client progress, and supporting and engaging stakeholders. In addition, the use of programme evaluation guidelines was shown to be an effective method of evaluating and managing changes to mental healthcare provision. The enable connection between limitations and section, limitations most pertinent to that section are included at the end of that section. It is acknowledged that some limitations may also affect the results reported in other areas.

Increased access

There is evidence of the ability of stepped care to meet the need for increased access to talking therapies identified in the WDHB mental health service survey (Rogan-Gibson & Earl, 2008). What had not been shown in previous studies was the ability of stepped care to increase access to talking therapies, either by an increase in the number of talking therapy clients or in the number of therapeutic sessions offered. While this may have been implied in published research that reported savings in time and resources, (Araya et al., 2003; Bischof et al., 2008; Drummond et al., 2009; Kidorf et al., 2007; Tolin et al., 2005; Treasure et al., 1996; Van't Veer-Tazelaar et al., 2010; Van't Veer-Tazelaar et al., 2009; Van Straten et al., 2006), increased client access had not been reported.

The increase in clients accessing talking therapies is of significance to the provision of mental health support. The overall numbers of clients referred to the service did not significantly increase over the same period; in addition, increased access to talking therapies was not seen in the control team (NS1). The number of individuals accessing therapy as a percentage of all clients accessing the service increased at RAMHS over the study period. As there was not an increase in the number of therapists employed at RAMHS, this increase is more likely to be connected to the introduction of the stepped care model. This is important, as the increase of client numbers accessing talking therapies suggests that existing resources are being better utilised. This has enabled more clients to access more therapy, as well as enabling therapists to meet this increased need.

Limitations

The length of time clients were engaged with the service was an unexpected result, and this led to a limitation in terms of the research design. As the majority of clients already existing or newly accessing the service during the study remained open by the end of the study period, exploring the effect stepped care had on time spent with the service could not be carried out with any accuracy. In addition, the period of time between initially engaging with the service and starting talking therapy was also unable to be explored. The stepped care model proposed that upon entry to the service that clients would be immediately allocated to a level of talking therapy; however as many clients were already engaged with the service with other health professionals, it was difficult to know when they had been referred to talking therapies. Without access to client notes, it was difficult to understand what treatment recommendations had been made, or when therapy was initially reccomended.

71

A significant limitation in the findings is the fact that even by the end of the study period, neither had the stepped care model been fully adopted at RAMHS, nor was there a clear starting point for the introduction of the model. Therefore, the evaluation was unable to be carried out in its proposed form. This makes it difficult to state with any certainty that the increased access to talking therapies was due to the introduction of the model. For example, team culture at RAMHS or NS1 may have had a part to play in the numbers of clients accessing therapy at either service. The effect of team culture has been found to have an effect on work (Lucas, 2010; Vinsen, 2011). While the intent of this research was to evaluate the stepped care model of healthcare provision, doing this in "real life" has exposed some of the difficulties of making changes to healthcare provision as well as the difficulties in evaluating this, something not unique to this particular study (Mueser et al., 2003; Parry et al., 2011).

A further limitation in the results is the effect of school holidays, as seen in the highlighted information displayed in both tables and graphs. For the majority of months, client numbers accessing the service and the number of talking therapy sessions delivered were lower than the month before and after the holiday periods. Client numbers accessing the service were, more often than not, higher the month after the holiday. In addition, increased session DNAs and cancellations could also be seen during these periods. This has the potential to affect statistical analysis. There may have been a number of reasons for this; therapists themselves may be on holiday or covering others on leave and less available for therapy. Childcare responsibilities may mean a reduced ability for clients to access support or attend sessions. Further exploration in the future may reveal reasons for the decreased client access during this period, as well as offer strategies to continue effective use of therapists'

time, WDHB mental health service resources as well as support and engage clients during these periods.

Differences in the client populations serviced by the RAMHS and NS1 teams may also have had an effect on the results. The RAMHS population is predominantly rural and the NS1 team services an urban population. While the effect this difference may have had on the delivery of talking therapies is unknown, it remains a limitation and further investigation into this area would provide more information.

The rate of session cancellations and non attendance is an area that could be investigated further. Information from both SRS and initial assessments may offer information in how to reduce this number. While the DNA and session cancellation rates seen at NS1 are anecdotally below those traditionally reported for secondary mental health services, if correct, exploring this may enable rates at RAMHS to be reduced to a similar level In addition, exploring re-referral rates for individuals accessing mental health services may provide information supporting or highlighting problems with the stepped care model of mental healthcare provision. However, due to the length of time clients spent with the service and limitations in study size and duration, this was beyond the scope of this study.

Improving, tracking and reviewing client outcomes

The use of the outcome measurement tools has the potential to assess client appropriateness for therapy in the secondary mental health sector. The ORS, SRS, HoNOS and WHOQOL-BREF all reported information that, in conjunction with the assessing clinicians perspective, may have been of use when exploring a clients appropriateness for talking therapy in the

73

secondary mental health sector. However, it is not clear from the data whether or not these tools were being used to inform progress and outcomes during the study period. For example, ORS scores below 25 indicate populations more likely to be significantly affected by problems with mental health. An example of a completed ORS showing this can be seen below in Figure 14**Error! Reference source not found.**. The client entered therapy reporting an ORS score over 25 and continued to report a score over 25 at three subsequent potential review periods.
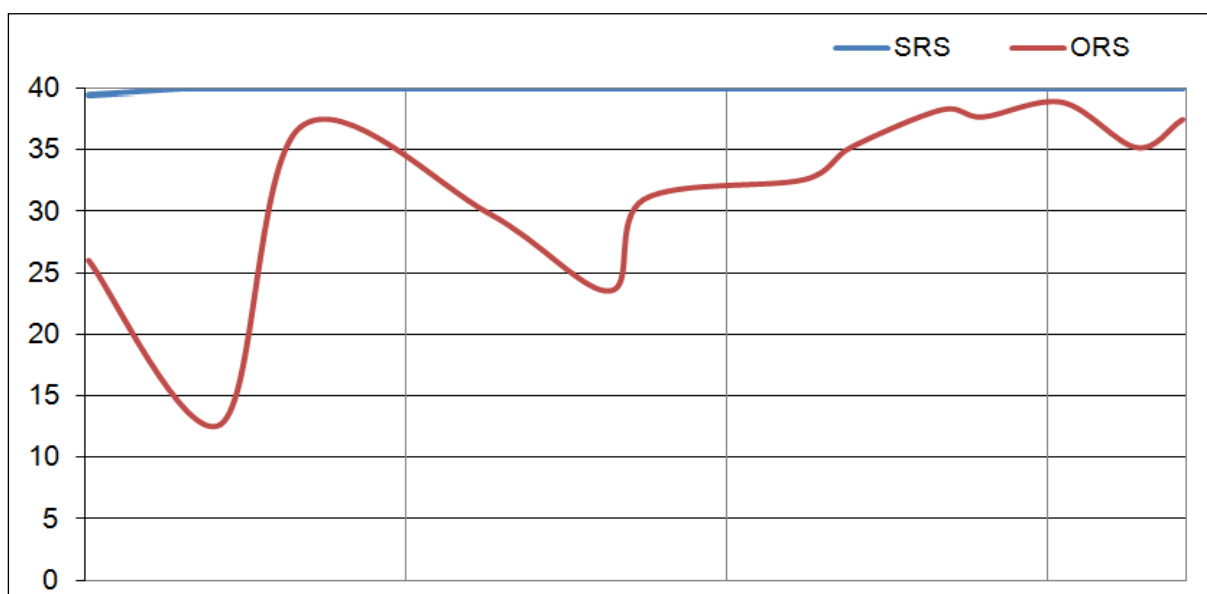
Dates have been removed (X axis) and lines smoothed increase confidentiality.
Vertical lines represent potential 8 week review periods

Figure 14. Example ORS showing entry score over 25.

While it is difficult to form conclusions or offer suggestions without further contextual information; had the reviews been implemented as suggested in the proposed stepped care model, or the SRS and ORS used as suggested (Duncan & Sparks, 2010; S.D. Miller et al., 2005), the problems identified in the ORS and SRS may have been able to be addressed. The regular use of outcome measurement during therapeutic sessions has been

associated with improved outcomes and reduced treatment dropout in a number of studies (Clark et al., 2009; Duncan & Sparks, 2010; S.D. Miller et al., 2005).

There were a number of clients at both RAMHS and NS1 for whom the initial ORS score did not indicate appropriateness for talking therapies in secondary mental health: 6 of the 39 RAMHS clients and 11 of the 29 NS1 clients reported initial ORS scores above 25. Miller and Sparks suggest that ORS scores above 25 indicate individuals for whom things are overall going well and are potentially seeking personal growth, alternatively they may have been required to come by another (Duncan & Sparks, 2010; S.D. Miller et al., 2005). In addition, once ORS score goes over 25, continued appropriateness for secondary mental health care, particularly at level 3 should be re-assessed.

The therapeutic alliance at RAMHS was found to be lower than that at NS1, and mean alliance scores at RAMHS were below the suggested cut-off (Duncan et al., 2003b; Duncan & Sparks, 2010; S.D. Miller et al., 2005) and dropped over the course of the implementation of stepped care. This would suggest that the stepped care had a negative effect on the client – therapist relationship. However, exploration of clients SRS scores suggested that had it been used according to its guidelines for use, or stepped care review periods carried out, the means scores remained unchanged at RAMHS. The SRS provides clinically significant information for the provision of talking therapies; the use of outcome measurement has little value if the information is not used in clinical practice.

Session rating scale guidelines suggest that therapists discuss SRS scores that fall below the suggested cut-off and/or those that decrease over the course of therapy. In addition,

if ORS scores do not increase within the first three sessions, therapists discuss way in which to support clients (Anker et al., 2010; Duncan et al., 2003a; Duncan & Sparks, 2010; S. D. Miller et al., 2003; S.D. Miller et al., 2005). Should ORS scores not improve, of if they decrease by the sixth session, therapists are recommended to discuss changes to treatment or therapist (Duncan & Sparks, 2010). The proposed stepped care model suggested therapists review (with the client, peers or supervisors) client progress at Week 8, or at any time if there were problems in the therapeutic alliance or problems increased.

Continuous feedback allows therapy to be tailored to the individual as well as providing an early warning system for at risk clients or alliance ruptures (Duncan & American Psychological Association, 2010). In addition, the use of the SRS and ORS has the potential to improve therapist skills (Anker et al., 2010; Duncan & American Psychological Association, 2010), the barriers to using the skills learnt in training, access to supervision and confidence in using skills (Lye, 2011; Vinsen, 2011) may be addressed by the regular use of the SRS, ORS and discussing clients at treatment reviews. A study found therapists using the SRS and ORS in couples counselling improved therapist effectiveness and received improved client feedback in nine out of 10 therapists using it (Anker et al., 2010). The continued and correct use of the ORS and SRS will enable clients accessing talking therapies to offer session feedback and identify and explore changes they would like. For therapists, using these tools will enable any problems in the alliance to be addressed before the client drops out or problem increase. Therapists will also be able to focus on the problems clients are identifying as important, or offer a rationale for addressing other problems first.

There were a number of difficulties with the HoNOS data. Without HoNOS data covering a wider period of the study, information from a majority of clients, or having a date by which stepped care had been fully introduced, the HoNOS information provided little to evaluate regarding the introduction of stepped care. Some available data did however highlight an area in which stepped care aims to make improvements; there were 10 clients from RAMHS and two from NS1 for whom the therapists reported a score of two or less for every question. This would suggest that the therapists identified none of these clients problems were of greater than "mild" severity. Without knowing further contextual information about these clients, it is uncertain why they accessed level 3 talking therapies in secondary mental health services.

Alternatively, problems with the ways in which HoNOS information is sorted and the sorting criteria provided from the WDHB data warehouse, for HoNOS information may have meant that there was a greater range of information on clients accessing talking therapies available. In addition, a more detailed analysis of individual HoNOS domains may have resulted in different results; however, the amount and range of data provided may have still limited its ability to indicate change related to the introduction of stepped care.

While the WHOQOL-BREF information suggested that appropriate clients were accessing therapy at both RAMHS and NS1, similar to the HoNOS, without WHOQOL-BREF data covering a wider period of the study, a greater number of clients or having a date in which stepped care had been fully introduced, this information provides little evidence regarding the introduction of stepped care. Similarly to the initial assessment information for the HoNOS, the available information highlighted the same area in which stepped care aims

to make improvements. There were 3 from 28 psychological WHOQOL-BREF scores for clients RAMHS and 6 from 28 from NS1 for whom the score from the psychological domain fit with that of population mean of adults with good health. This would suggest that the problems for which these clients were accessing support were of low severity or primarily within other domains, for example problems with physical health. Without knowing further contextual information about these clients, further exploration of their appropriateness for talking therapies cannot be carried out.

The time spent in talking therapies, while a limitation, also validated guidelines for the use of the ORS and SRS. Miller, Sparks and Duncan suggest that if change does not happen early in the therpeutic process, offering more of the same does not increase the liklihood of the client improving (Duncan & Sparks, 2010; S.D. Miller et al., 2005). The majority of significant change, an increase of more than 5 (shown by data above the dotted line in Figure 10 on page 63), appears to happen within the first 100 days with the service, this follows ORS guidelines for use, (Duncan & Sparks, 2010).

Outcome measurement has the potential, if not collaborative or involving client perspectives, to be pathologising and reinforce negative power dynamics that may exist between therapists and those accessing services (ref). In addition, the routine completion of forms or assessments may become meaningless for clients if information is not returned to them as well as using time that could be better spent addressing the issues they have accessed the service for.

While information from outcome measurement needs to be used in context of the unique aspects each client presents with; without it, change that does happen can be difficult capture. The client outcome information that was analysed highlighted the utility of client reported information as well as the usefulness of a variety of outcome measurement tools. Ongoing outcome evaluation can assist clients and therapists to track progress and offer feedback, increasing collaboration and engagement with the therapeutic process. In addition, ongoing outcome evaluation offers therapists the tools to assess the effectiveness of therapy. As mentioned, discussing the SRS and ORS scores is part of the guideline for use for these tools, and guidelines for the use of the HoNOS suggest that without the HoNOS information being returned to therapists and discussed, it can also become meaningless to them (Royal College of Psychiatrists, 2008).

For therapists facing difficulties with workloads and healthcare systems, the addition of more assessments to enter and forms to complete may create more problems (Vinsen, 2011). In addition, worries over implications for negative outcomes (either on changes to presenting problems or session rating) on their relationship with peers or employers may increase reluctance to carry out outcome measurement. If outcome measurement information gathered from clients and therapists is not easily accessible, in a format that is simple for all stakeholders to understand, they may be more reluctant to gather information or provide it in any meaningful accurate way.

For agencies providing mental healthcare, similar problems exist. To continue to support communities and retain staff during times when there is increasing pressure from funders means the pressure to show funders outcomes becomes more important. With

reductions in healthcare funds, there needs to be considerations into where money is training and support for staff is targeted. In addition, it is important to be able to identify areas in which there are difficulties and offer those areas increased support. However without making the use of outcome measurement mandatory, or providing evidence of its effective use, advocating for funds for training and support may be more difficult.

Limitations

A limitation of the SRS, ORS and WHOQOL-BREF data analysis was the low number of SRS, ORS and WHOQOL-BREF scores returned. Also, as the use of these was not taken up by all therapists, the data that was collected may not be an accurate representation of all clients' feedback. The SRS, ORS and WHOQOL-BREF information gathered from NS1 clients was predominantly from those that already existed with the service prior to the start of the study. Existing clients also made up a proportion of those that completed forms at RAMHS. In addition, it was found that many of the SRS and ORS forms did not match the number of therapeutic sessions recorded in HCC. Without their use becoming part of therapeutic practice, it may be difficult to form conclusions about their representation of the alliance or client problems. Furthermore, without contextual evidence from therapists regarding the client and session, offering suggestion of changes to processes with clients may further alienate therapists.

This is an area which could use further investigation, none of the outcome measurement data gathered (including HoNOS which is mandatory data) was sufficiently complete to enable client progress over time to be tracked. This is an important area for all stakeholders and the one that also has the potential to raise further issues for clients in

particular. Outcome measurement for those accessing healthcare services gives them the chance to both have a voice in what issues are causing the greatest distress, track progress and offer feedback to healthcare providers. The use of outcome evaluation fits well with stepped care guidelines, supporting clinical judgement to identify the least intensive evidence based treatment and when reviewing clients progress and increasing or decreasing treatment intensity.

In addition, it is uncertain if the SRS, ORS or HoNOS have normative data for the New Zealand (NZ) population. While NZ WHOQOL-BREF population normative data has been gathered, it was not available at time of writing. The NZ culture may have an effect on how clients rate themselves, for example the 'tall poppy syndrome' that is associated with the NZ culture (Kirkwood, 2007), may lead to clients rating themselves lower on the ORS, not wanting to be seen to be doing too well. Alternatively they may rate the therapist lower, not wanting them to think they are doing too well.

Another area of further exploration is the implementation of systems to enable timely feedback of assessment data (HoNOS and WHOQOL as well as SRS and ORS) by therapists in a format that is easy to understand and access. If this can be done without increasing data entry requirements, it may increase use of outcome measurement, support clients and enable therapists to gain support when needed. Ability to record the type and level of talking therapy sessions delivered would enable healthcare providers to not only more accurately evaluate data, but also to offer training, supervision and support to therapists for the therapeutic models they are using, and identify gaps. In addition, utility of therapeutic models offered for different disorders may be better understood by healthcare providers.

Finally, further exploration into item scores in all of the outcome evaluation tools used may enable further exploration into where change happens, and what is important to clients accessing support in the WDHB mental health service. This was unfortunately beyond the scope of this thesis.

Engaging stakeholders

This study found that offering information to clinicians responsible for referring clients to talking therapies, about the types of support available and the stepped care model, increased awareness of potential clients fit and appropriateness for talking therapies. An area that had previously been found to cause problems in the use of stepped care was the transition between primary care and secondary healthcare (Kendrick & Peveler, 2010). Continuing discussions between referring (internal and external) stakeholders may ease client transition in and out of the service. A study of the stepped care model in primary care services revealed that the model decreased the referral of clients unsuitable for secondary mental health care, freeing therapists to see appropriate clients (Meeuwissen et al., 2008). Educating referrers serves to increase the access to therapy for those most needing it and free therapists to work with these individuals.

There is often a significant delay between initial onset of mental health disorders and the individual accessing support (Wang et al., 2007). Identifying the level and type of support that is appropriate early in an individuals' access to secondary health services, and enabling swift access to that support, decreases the chance of further problems (deGruy III, 1997; Wang et al., 2007; Wang et al., 2005). In addition, supporting referrals to appropriate

services, either primary care or non-governmental agencies, to enable ongoing relapse prevention, has been identified with individuals holding onto mental health gains and reduced re-referral rates (deGruy III, 1997; Wang et al., 2007; Wang et al., 2005).

The programme evaluation model promotes the involvement of stakeholders in the evaluation process. While, the stepped care project leaders were able to engage therapists in a number of areas early in the evaluation. Barriers to the use of outcome measurement from therapists were evident from feedback relayed through stepped care project leaders and service team leaders, particularly at NS1 who stopped all use. Despite attempts to arrange meetings with therapists to discuss negative as well as positive experiences of using outcome evaluation, these failed to happen. Some feedback was received regarding the difficulties they experienced with the stepped care model (Earl, 2011; Lye, 2011) and the qualitative study reported some experiences of outcome evaluation (Vinsen, 2011) The qualitative study exploring therapists experience of enabled their perspective to be explored in greater detail. During the evaluation, additional methods of disseminating information were attempted, despite this, therapist engagement remained low. The offer (from the researcher) to return scored and graphed SRS and ORS to participating therapists was accepted by one therapist towards the end of the study.

A barrier to implementing the stepped care model of providing talking therapies that raised by secondary mental health workers seemed the desire to maintain existing methods of talking therapy allocation (Earl, 2011; Lye, 2011). As these methods meant that clients referred for talking therapies were not fully assessed for appropriateness for talking therapies before therapy allocation, and client progress was not routinely assessed, both the clients'

needs and healthcare providers were potentially being undermined. The primary rationale of stepped care is that allocating an individual to a more or less intense level of therapy as appropriate may exacerbate the clients' problems as well as better utilise healthcare resources. The stepped care model of delivering psychological therapies was initially introduced to therapists and WDHB mental health service team leaders during planning for the study in early 2010, and the model was frequently discussed at team meetings. While discussions held prior to the start of the study indicated that RAMHS therapists and key personnel understood the rationale and indicated acceptance of the model, the fact that it was not fully introduced by the end of this study would tend to suggest otherwise.

The areas explored in this thesis are of interest to more than one stakeholder. An example is the reduction in presenting problems, individuals access the service in order to address problems in mental health and alleviate any distress they are experiencing. Therapists have spent their time and money training and gaining qualifications in order to support individuals with the problems they face, and mental health providers receive funding to help individuals and communities with mental health problems they are facing, offer training and pay therapists to support those accessing the service. Figure 15 offers a diagrammatic view some overlapping areas.

1: Therapeutic relationship: SRS

2: Timely access to appropriate support: waitlist times

3: Reduction in presenting problems: HoNOS, WHOQOL, ORS

4: Duration of therapy delivered: number of sessions, number of completed SRS/ORS and HoNOS, team reviews
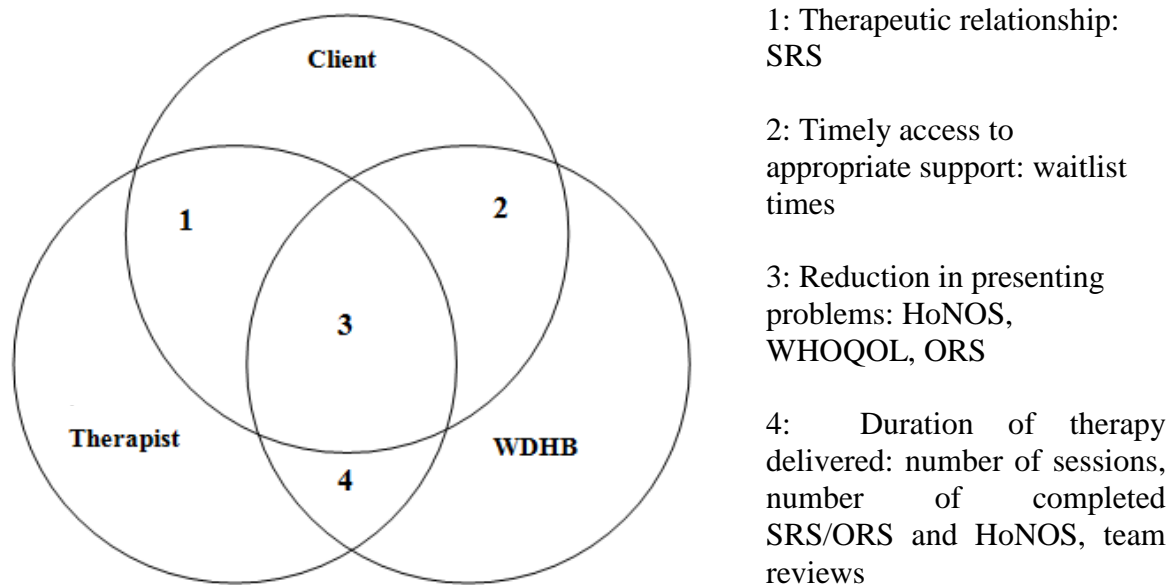
Figure 15. Talking therapy stakeholders

The perception that outcome measurement only serves one stakeholder, or is time consuming to complete (Lye, 2011; Vinsen, 2011) may decrease the use and acceptance of it from some stakeholders, such as therapists or clients. Increasing stakeholder awareness of the relevance to them of outcome measurement and enabling easy access to information may increase acceptance and use.

Limitations

A limitation discussed in the programme evaluation results, was difficulties in gathering accurate data regarding exactly what was being provided in terms of talking therapy in the data collection system (HCC) used by the WDHB mental health service to record such data. Sessions recorded as 'follow up' had the potential to be talking therapy sessions, sessions recorded as 'therapy' had the potential to be from occupational therapists and group therapy could include a variety of group support offered at each service. There

were no current guidelines as to how to log therapeutic contacts or those in which therapists may operate in dual roles; for example if a care co-ordinator provides therapy the contacts may still be logged as a care co-ordination. In addition there were a large number of contacts and contact hours logged as 'follow ups'. It is unknown if these were therapeutic contacts or not. Follow up contacts were often found to be more than 30min in duration, face-to-face and at a WDHB mental health service site; this would suggest that they are more than brief contacts.

There was some evidence to support the fact that a recorded contact in which therapy was provided, may not be being recorded as such. For example, while matching client SRS, ORS and WHOQOL-BREF identifiers with recorded contacts, it was found that therapists returned SRS and ORS data for three clients at RAMHS that were not recorded as having received therapy. Exploration into how these clients' contacts were recorded, revealed that between them they had been seen by therapists for a total of 48 'follow up' contacts with a duration ranging between 15 and 60 minutes. Furthermore, filtering client identifiers for all follow up contacts in which the client was present, (phone call, letters and contacts which were cancelled or the client did not attend were excluded), revealed that during the study period there were 4348 'follow up' contacts recorded for RAMHS, these had an average duration of 57 minutes.

The timeframe allowed to complete the components necessary to implement stepped care; therapist competencies, training (in both level two therapeutic models as well as evaluation tools), introduction to the stepped care model and outcome measurement may have created a sense of pressure at an early stage and potentially disengaged therapists. All of

these things happening within a relatively short timeframe may have added pressure to existing caseloads and created resistance to change.

Suggestions for future rollout

Allocating sufficient time and discussing the best way for therapists to use outcome evaluation, while continuing to support clients and fulfil WDHB mental health service administration requirements may have enabled greater buy-in from therapists without increasing pressure on existing caseloads (Lye, 2011; Vinsen, 2011). A step-by-step introduction, where the next phase did not start until the previous was completed may reduce overload or problems with one area affecting other areas; for example, completing the assessment of therapist competency before introducing and starting the use of outcome measurement tools may have increased uptake.

Ongoing training in greater depth on the rationale behind the stepped care model and assessment tools, in conjunction with ongoing support and supervision may have eased the implementation of stepped car and increased therapist acceptance and engagement with the tools and model. In addition, further clarification of recording categories for both the mental health teams and therapists may enable further delineation of therapist skills and knowledge and a clearer understanding of what is being provided to clients.

To enable accurate collection of what is being delivered; adapting data collection and reporting systems to collect the type of group or therapy approach (Solution-focused, CBT, DBT etc), in conjunction with the stepped care level may enable the WDHB mental health service to assess client service utilisation and effectiveness of support. This will also enable

others involved in the individuals care to understand the support they are currently accessing and what, if any, they have received in the past. This could provide useful information for therapists, others supporting the client and referring staff when assessing clients for talking therapies or during client reviews.

Finally, as the SRS, ORS and WHOQOL-BREF information was seen to be both a useful and integral aspect of both stepped care and its evaluation, exploration into the feasibility of offering training, support and supervision in outcome evaluation may increase client engagement, support client and therapist outcomes and offer savings in time to both therapists and the WDHB mental health service.

Conclusion

This research provided evidence supporting the use of the stepped care model for providing psychological therapies in the secondary mental health sector. Stepped care increased access to talking therapies, enabling more clients' access to more therapeutic support. The ability of the stepped care model to continue to improve client outcomes, rationalise utilisation of existing resources and support therapists was also shown, supporting the continued introduction of the model. A number of areas for future development were identified that may ease the introduction, including changes to healthcare reporting systems, training and outcome evaluation were identified.

The continued use of programme evaluation as a research method will enable problems to be discovered, discussed and addressed. Engaging all stakeholders provides the best chance of reducing the negative effects of mental health on those experiencing difficulties, their families and the communities in which they live, of enabling therapists and healthcare providers to be involved and supported in reducing the effects of mental health, and highlighting where systems need to be changed to support optimum healthcare practice.

As the evidence for the effectiveness of talking therapies continues to increase (refs), and as constraints remain to healthcare funding (refs), continued support for the stepped care model will enable individuals with mental health problems to access effective support. It will also enable providers to manage referral pathways and therapists to continue to offer appropriate support while in turn being supported by healthcare providers. Continued work on supporting and engaging therapists during changes to healthcare provision may increase acceptance and utilisation of the model and evaluation strategies. Further exploration into

managing client pathways in and out of secondary mental healthcare may further increase the utility of the stepped care model for all stakeholders. In addition, aligning reporting systems to support and work with the stepped care model may ease its introduction into other sites and increase its utility in the WDHB mental health service as well as provide accurate supporting evidence. Finally, increasing the use of outcome measurement, integrating this into reporting systems and disseminating information back to stakeholders, will allow this information to support clients and therapists. This will enable the continuation of effective evidence based provision of talking therapies for clients with mental health disorders in secondary mental healthcare of the Waitemata District Health Board.

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Appendix 1. WHOQOL-BREF

Table 12. Response ratios for WHOQOL-BREF scores by site

Question	NS1						RAMHS					
	mean	item response ratio					mean	item response				
		1	2	3	4	5		1	2	3	4	5
1	3.67	0.03	0.07	0.21	0.52	0.14	3.04	0.11	0.25	0.29	0.21	0.14
2	3.02	0.07	0.28	0.24	0.38	0.00	2.66	0.25	0.25	0.14	0.21	0.11
3	1.86	0.55	0.17	0.17	0.07	0.03	2.39	0.32	0.25	0.25	0.07	0.11
4	3.03	0.14	0.14	0.34	0.31	0.07	3.14	0.11	0.25	0.21	0.25	0.18
5	3.14	0.03	0.21	0.41	0.28	0.07	2.75	0.07	0.32	0.43	0.14	0.04
6	3.24	0.00	0.28	0.34	0.24	0.14	2.63	0.14	0.32	0.32	0.11	0.07
7	3.29	0.00	0.21	0.34	0.34	0.07	2.86	0.04	0.25	0.61	0.04	0.07
8	3.68	0.00	0.03	0.38	0.41	0.14	3.07	0.04	0.11	0.64	0.18	0.04
9	3.69	0.00	0.03	0.28	0.66	0.03	3.39	0.04	0.14	0.32	0.39	0.11
10	3.12	0.00	0.24	0.45	0.17	0.10	2.50	0.14	0.39	0.32	0.11	0.04
11	3.07	0.10	0.17	0.41	0.10	0.17	2.50	0.29	0.18	0.32	0.18	0.04
12	3.28	0.10	0.17	0.31	0.17	0.24	2.52	0.21	0.29	0.29	0.11	0.07
13	4.00	0.00	0.00	0.28	0.45	0.28	3.54	0.04	0.04	0.36	0.50	0.07
14	3.17	0.14	0.07	0.38	0.31	0.10	2.86	0.11	0.25	0.36	0.25	0.04
15	4.17	0.00	0.00	0.24	0.34	0.41	3.71	0.00	0.04	0.39	0.39	0.18
16	3.45	0.07	0.17	0.21	0.34	0.21	2.64	0.11	0.43	0.21	0.21	0.04
17	3.52	0.03	0.17	0.24	0.34	0.21	2.89	0.14	0.21	0.29	0.25	0.07
18	3.38	0.00	0.24	0.28	0.34	0.14	2.41	0.18	0.32	0.39	0.04	0.04
19	2.90	0.10	0.17	0.48	0.21	0.03	2.36	0.21	0.36	0.32	0.07	0.04
20	3.21	0.03	0.31	0.21	0.24	0.17	2.71	0.14	0.36	0.25	0.14	0.11
21	2.93	0.17	0.17	0.31	0.24	0.10	2.44	0.25	0.29	0.25	0.11	0.07
22	3.55	0.03	0.14	0.28	0.34	0.21	3.00	0.07	0.25	0.43	0.11	0.14
23	3.93	0.00	0.03	0.28	0.41	0.28	3.18	0.11	0.14	0.36	0.25	0.14
24	4.38	0.00	0.03	0.07	0.38	0.52	4.14	0.00	0.00	0.21	0.43	0.36
25	4.03	0.03	0.03	0.17	0.34	0.38	3.82	0.07	0.14	0.11	0.25	0.43
26	3.34	0.00	0.17	0.41	0.31	0.10	3.77	0.00	0.00	0.32	0.57	0.07

Table 13. WHOQOL-BREF change between administration by domain

Location	Month first administered	Domain			
		physical	psychological	social	environmental
RAMHS	November	0.00	16.67	0.00	0.00
	November	0.00	**-29.17**	25.00	3.13
	November	3.57	8.33	16.67	**-15.63**
	November	10.71	8.33	41.67	9.38
	December	14.29	0.00	8.33	**-9.38**
	December	7.14	20.83	33.33	12.50
	January	**-3.57**	0.00	0.00	3.13
	January	7.14	2.08	4.17	**-4.69**
	March	32.14	16.67	8.33	28.13
	March	7.14	8.33	20.83	9.38
	May	10.71	8.33	0.00	6.25
	August	14.29	8.33	33.33	3.13
Average change by domain		8.63	5.73	15.97	3.78
NS1	November	**-17.86**	0.00	**-25.00**	**-9.38**
	November	**-25.00**	0.00	**-8.33**	**-12.50**
	November	0.00	4.17	**-8.33**	**-9.38**
	November	7.14	45.83	41.67	0.00
	November	14.29	8.33	0.00	3.13
	November	3.57	0.00	8.33	12.50
	November	**-7.14**	4.17	16.67	3.13
	November	10.71	**-8.33**	8.33	0.00
	November	**-17.86**	**-4.17**	0.00	12.50
	November	7.14	16.67	**-8.33**	**-6.25**
Average change by domain		-2.50	6.67	2.50	-0.63

Raw domain scores were first transformed to a 0-100 scale, before the earliest domain score was subtracted from the latest to produce the change in domain score.
Negative scores (worsening in domain) in bold.

Appendix 2. HoNOS

Table 14. Item response ratios for HoNOS scores by site

Question number	RAMHS mean	item response ratio 0	1	2	3	4	NS1 mean	item response ratio 0	1	2	3	4
1	0.49	**0.57**	0.40	0.01	0.02	0.01	0.57	**0.58**	0.30	0.09	0.03	0.00
2	0.52	**0.67**	0.18	0.08	0.05	0.01	0.53	**0.74**	0.13	0.01	0.11	0.01
3	0.33	**0.78**	0.11	0.06	0.03	0.00	0.34	**0.76**	0.13	0.04	0.04	0.00
4	0.45	**0.69**	0.19	0.11	0.00	0.01	0.45	**0.71**	0.16	0.07	0.05	0.00
5	0.77	**0.58**	0.19	0.14	0.08	0.02	0.83	**0.57**	0.14	0.18	0.07	0.03
6	0.33	**0.83**	0.04	0.07	0.03	0.02	0.67	**0.70**	0.07	0.14	0.01	0.07
7	1.50	**0.26**	0.25	0.23	0.24	0.02	1.84	0.22	0.22	0.16	**0.28**	0.12
8	1.79	0.25	0.13	**0.32**	0.19	0.11	1.88	0.29	0.04	**0.28**	0.26	0.12
9	1.38	0.23	0.30	**0.33**	0.09	0.03	1.93	0.14	0.22	**0.29**	0.24	0.11
10	0.72	**0.56**	0.25	0.11	0.06	0.02	0.71	**0.55**	0.22	0.16	0.05	0.00
11	0.38	**0.73**	0.14	0.08	0.02	0.00	0.50	**0.66**	0.16	0.09	0.03	0.01
12	0.47	**0.64**	0.21	0.10	0.02	0.00	0.37	**0.72**	0.16	0.05	0.01	0.01

Table 15 . Mean initial scores for HoNOS and mean change between entry and latest score

Month	RAMHS n	mean	range	average change	NS1 n	mean	range	average change
April					6	9.17	2 - 18	0.17
May	14	11.93	1 - 30	4.79	9	12.78	8 - 19	3.67
June	8	10.75	5 - 21	1.00	7	14.00	5 - 24	3.29
July	5	10.00	4 - 17	2.60	5	12.40	11 - 16	0.20
August					4	13.00	7 - 18	8.75
September					1	2.00	n/a	2.00

Appendix 3. SRS and ORS

Table 16. Mean entry ORS scores and mean change between earliest and latest ORS

Month	RAMHS				NS1			
	n	mean	range	mean change*	n	mean	range	mean change*
November	6	16.85	3.1 - 27.8	3.35	18	23.72	10 - 33.8	5.99
December	1	11.5	n/a	2.90	2	17.1	15.4 - 26.8	4.80
January	3	15.63	8.8 - 21.5	0.83	2	33.2	33.2 - 33.2	-1.30
February	5	15.5	9.1 - 25	2.88	3	19.23	14.8 - 22.9	3.77
March	9	18.65	3.7 - 38.9	5.46	2	29.65	29 - 30.3	1.90
April	2	10.55	9.3 - 11.8	10.55				
May	4	16.55	13.5 - 21.9	11.53				
June	4	20.37	7.5 - 35.4	7.85				
July	4	6.13	1.5 - 17.2	8.87				
September	1	14	n/a	6.40				

* mean change in ORS scores was calculated by subtracting earliest ORS score from latest ORS score for each client. Numbers are then grouped by month and mean change calculated

Table 17. Entry SRS scores and mean change between earliest and latest SRS

	RAMHS				NS1			
	n	mean	range	mean change*	n	mean	range	mean change*
November	6	37.15	35.4 - 39.2	0.43	18	36.97	29.2 - 40	5.98
December	1	36.4	n/a	2.9	3	39.7	33.4 - 40	4.8
January	4	36.65	32.3 - 40	-2.4	2	38	38 - 38	-1.3
February	5	32.82	15.9 - 39.2	4.36	3	33.86	33.2 - 36.1	3.76
March	9	33.01	26.3 - 40	2.45	2	36.95	33.9 - 40	1.9
April	2	37.55	37.4 - 37.7	1.05				
May	4	37.05	34.5 - 40	-0.075				
June	4	33.15	29.1 - 38.5	5.3				
July	4	36.3	34.7 - 38.2	-0.8				
September	1	27.7	n/a	-5				

* mean change in ORS scores was calculated by subtracting the earliest SRS score from the latest SRS score for each client. Numbers are then grouped by month and mean change calculated